Initial Study/Mitigated Negative Declaration

Grace Way Well Project

NOVEMBER 2023

Prepared for:

SCOTTS VALLEY WATER DISTRICT
2 Civic Center Drive
Scotts Valley, California 95066

Prepared by:

DUDEK

725 Front Street, Suite 400
Santa Cruz, California 95060

Proposed Mitigated Negative Declaration

Project Name: Grace Way Well Project

Lead Agency and Project Proponent: Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, California 95066

Project Location: 5297 Scotts Valley Drive, Scotts Valley, California 95066 (Assessor's Parcel Number [APN] 022-031-13)

Project Description: The Scotts Valley Water District (SVWD) proposes to construct and operate one new groundwater extraction well on SVWD-owned property at 5297 Scotts Valley Drive, Scotts Valley, California (APN 022-031-13). The well would be 1,000 feet deep into the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin. The primary purpose of the Project is to provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand as older wells reach the end of their useful life and are taken out of service, as well as strengthen the SVWD's ability to meet potential demand to deliver water to neighboring agencies under drought or emergency conditions in support of regional water supply planning efforts. Additionally, the Project would provide drought resiliency by enabling the SVWD to shift groundwater pumping away from areas where the greatest Lompico aquifer groundwater level declines have historically occurred in south Scotts Valley. The well would have a design capacity of 600 gallons per minute and could be operated continuously or for shorter intervals, depending on water demand.

Finding: A Mitigated Negative Declaration (MND) has been prepared by the SVWD for the Project in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (Title 14 of the California Code of Regulations [CCR] 15000 et seq.). The SVWD is the lead agency for the preparation of the MND. The SVWD Board of Directors (Board) is the governing body and has the authority to adopt the CEQA document and provide other approvals for the Project. The SVWD is the point of contact for the CEQA process.

The SVWD prepared the attached Initial Study which determined that the Project may result in potentially significant environmental impacts on biological resources, cultural and tribal cultural resources, geology and soils, hydrology and water quality, and noise, but incorporation of the mitigation measures identified in the Initial Study would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur.

The SVWD has distributed this proposed MND and Initial Study for public review from November 20 to December 20, 2023. On the basis of the Initial Study, the SVWD has determined that, with incorporation of Project-specific mitigation measures identified in the Initial Study, the Project would not result in a significant adverse effect on the environment. There is no substantial evidence, in light of the whole record before the lead agency, that the Project, as revised, may have a significant effect on the environment. Therefore, the preparation of an environmental impact report (EIR) is not required. The supporting technical reports that constitute the record of proceedings upon which this determination is made are available for public review at the SVWD office at 2 Civic Center Drive, Scotts Valley, California, 95066, between 8:00 a.m. and 5:00 p.m., Monday through Thursday.

Mitigation Measures: The six mitigation measures identified in the Initial Study are listed below, and will be incorporated into the Project design or as conditions of approval, to ensure that any potential effects on the environment will not be significant.

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measure
Biological Resources	
Project construction could result in the loss or abandonment of active nests of birds protected under the Migratory Bird Treaty Act and/or the California Fish and Game Code, as a result of construction-related noise and disturbance.	**MM BIO-1: Pre-Activity Surveys for Nesting Birds.** Within 14 days prior to any ground-disturbing activities or vegetation clearing during the nesting season, a qualified biologist or biological monitor shall conduct a pre-activity nesting bird survey of all potential nesting habitat within the Project site, including a 100-foot buffer for passerine species and a 300-foot buffer for raptors. If there is a lapse between the survey time and initiation of work activities of 14 days or greater, the nesting bird survey shall be repeated. If active nests are found during the survey, work in that area shall stop and a qualified biologist or biological monitor shall determine an appropriate no-work buffer around the nest based on the activity and species and mark the buffer using flagging, pin flags, lathe stakes, or similar marking method. No work shall occur within the buffer until the young have fledged or the nest(s) are no longer active, as determined by the biologist or biological monitor.
Cultural and Tribal Cultural Resources	
In the event that ground-disturbing construction activities were to unearth previously unidentified archaeological resources, the Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	**MM CUL-1: Discovery of Unique Archaeological Resources, Historical Resources of Archaeological Nature, and Subsurface Tribal Cultural Resources.** If archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all soil-disturbing work within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards can evaluate the significance of the find. The archaeologist will determine whether additional study is warranted. Should it be required, the archaeologist shall install temporary flagging around a resource to avoid any disturbances from construction equipment. If the resource has potential to be a unique archaeological resource, a historical resource of an archaeological nature, or a subsurface tribal cultural resource, the qualified archaeologist, in consultation with the lead agency, shall prepare a research design and archaeological evaluation plan to assess whether the resource should be considered significant under CEQA criteria. If the resource is determined significant, the lead agency shall provide for preservation in place. If preservation in place is not possible, the qualified archaeologist, in consultation with the lead agency, will prepare a data recovery plan for retrieving data relevant to the site's significance. The data recovery plan shall be implemented prior to, or during, site development (with a 100-foot buffer around the resource). The archaeologist shall also perform appropriate technical analyses, prepare a full written report and file it with the Northwest Information Center, and provide for the permanent curation of recovered materials. The written report will provide new recommendations, which could include, but would not be limited to, archaeological and Native American monitoring for the remaining duration of Project construction.

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measure
In the event that ground-disturbing construction activities were to unearth previously unidentified human remains, the Project could disturb human remains, including those interred outside of formal cemeteries.	MM CUL-2: Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, immediately notify the lead agency and the Santa Cruz County Coroner of the discovery. The coroner will decide the nature of the remains within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, can occur until a determination has been made. If the County Coroner determines that the remains are, or are believed to be, of Native American ancestry, the coroner will notify the Native American Heritage Commission within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the Native American Heritage Commission will appoint a Most Likely Descendant (MLD), who will be authorized to provide recommendation to the lead agency regarding the preferred treatment of the remains and any associated objects and/or materials.
Geology and Soils	
The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	MM GEO-1: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring. Prior to commencement of any grading activity on site, the Scotts Valley Water District shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project that shall be consistent with the SVP (2010) guidelines and include the following: preconstruction meeting attendance and worker environmental awareness training; locations where paleontological monitoring is required within the Project site based on construction plans and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. Costs for laboratory and museum curation fees (if fossils are recovered) shall be the responsibility of the Scotts Valley Water District. A qualified paleontological monitor shall be on site during initial rough grading and other significant ground-disturbing activities, including large diameter (two feet or greater) drilling below a depth of five feet below the ground surface. No paleontological monitoring is necessary during ground disturbance within artificial fill, determined to be present. In the event that paleontological resources (e.g., fossils) are unearthed during grading or drilling, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.

Summary of Impacts and Mitigation Measures

<table>
<tr><th>Impact</th><th>Mitigation Measure</th></tr>
<tr><td colspan="2">Hydrology and Water Quality</td></tr>
<tr><td>Construction activities could result in erosion and sedimentation, as well the discharge of chemicals and materials, that could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.</td><td>MM HYD-1: Implement Stormwater Control During Construction. Erosion control and stormwater pollution prevention best management practices (BMPs) shall be implemented to prevent the discharge of construction waste, sediment, debris, or contaminants during construction activities. BMPs shall include, but would not be limited to, the following:
▪ Installation of perimeter sediment controls such as silt fences, fiber or straw rolls, and/or bales along limits of work/construction areas;
▪ Minimizing temporary stockpiling of excavated material, locating stockpiled spoils in areas where it cannot enter the storm drain system, and covering of stockpiled spoils;
▪ Revegetation and physical stabilization of disturbed graded and staging areas;
▪ Sediment control including fencing, dams, barriers, berms, traps, and associated basins;
▪ Wind erosion controls such as watering active construction areas as necessary to control fugitive dust, covering inactive storage piles, and covering all trucks hauling dirt or loose materials off site;
▪ Storage of hazardous materials within an established containment area;
▪ Inspection of construction equipment daily for leaks of oil, lubricants, or other potential stormwater pollutants, placement of plastic over any ground surface where fueling or equipment maintenance is to occur, and placement of drip pans under equipment parked on site; and
▪ Keeping emergency spill kits and an adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) on site at all times.</td></tr>
<tr><td colspan="2">Noise</td></tr>
<tr><td>Construction activities could result in generation of a substantial temporary increase in ambient noise levels in in excess of the daytime and nighttime Federal Transit Administration construction noise level thresholds at the nearest noise-sensitive residential land use to the northwest (at a distance of 40 feet).</td><td>MM NOI-1: Construction Noise. The Scotts Valley Water District and its contractor shall implement appropriate best management practices (BMPs) to reduce construction noise levels emanating from construction activities with a primary goal to minimize disruption and annoyance at existing noise-sensitive receptors in the Project vicinity. A detailed construction noise reduction plan shall be developed identifying the schedule for major noise-generating construction activities and procedures for coordination with the owner/occupants of nearby noise-sensitive land uses, so that construction activities can be scheduled to minimize noise disturbances. The Project's contractor shall implement, but would not be limited to, the following measures related to construction noise:</td></tr>
</table>

Impact	Mitigation Measure
	▪ Restrict construction activities and use of equipment that have the potential to generate significant noise levels (e.g., use of concrete saw, mounted impact hammer, jackhammer, rock drill, etc.) to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays. ▪ Construction activities requiring operations continuing outside of daytime hours (e.g., borehole drilling) shall locate noise-generating equipment as far as feasibly possible from noise-sensitive receptors. ▪ Construction equipment and selection thereof shall make use of quiet technologies where such technologies or models exist. ▪ Maximum physical separation, as far as practicable, shall be maintained between construction equipment and adjacent noise-sensitive land uses/receptors. ▪ Construction equipment and vehicles shall be fitted with efficient, well-maintained mufflers that reduce equipment noise emission levels at the Project site. Internal-combustion-powered equipment shall be equipped with properly operating noise-suppression devices (e.g., mufflers, silencers, wraps) that meet or exceed the manufacturer's specifications. Mufflers and noise suppressors shall be properly maintained, tuned, and inspected on a routine basis to ensure proper fit, function, and minimization of noise. ▪ Impact tools shall have the working area/impact area shrouded or shielded whenever possible, with intake and exhaust ports on power equipment muffled or suppressed and directed away from nearby noise-sensitive receptors. This may necessitate the use of temporary or portable, application-specific noise shields, enclosures, or barriers. ▪ Site support equipment such as pumps, generators, air compressors and other stationary noise-generating equipment shall be located within acoustically treated enclosures, shrouded, or shielded to prevent the propagation of sound in the direction of nearby noise-sensitive receptors in the surrounding areas, regardless of construction hours. Acoustical enclosures, shrouds, or temporary barriers shall meet or exceed a sound transmission class (STC) rating of 27 or greater. ▪ Construction equipment shall not be idled for extended periods of time (i.e., 5 minutes or longer) in the immediate vicinity of noise-sensitive receptors or when not foreseeably in use.

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measure
	▪ The contractor shall designate and identify a "disturbance coordinator" who will be the responsible point of contact for construction noise concerns or complaints. The disturbance coordinator's contact phone number along with the appropriate Scotts Valley Water District contact information shall located on a sign, conspicuously placed and clearly visible to the public. The disturbance coordinator will determine the cause of the noise complaint and respond to or implement corrective action within 48-hours, to resolve the issue(s) which the complaint is regarding. All complaints shall be logged, noting the date, time, issuing party's name and contact information, the nature of the complaint, and any corrective action taken to resolve the issue.
The Project would result in the construction of new water facilities, the construction of which could cause significant environmental effects.	See MM BIO-1, MM CUL-1, MM CUL-3, MM GEO-1, MM HYD-1, and MM NOI-1 listed above.

David McNair, General Manager
Scotts Valley Water District

Date

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
3CE	Central Coast Community Energy
AB	Assembly Bill
ACM	asbestos-containing material
ADT	average daily traffic
AMBAG	Association of Monterey Bay Area Governments
ANSI	American National Standards Institute
APN	Assessor's Parcel Number
ASTM	American Standards for Testing and Measurement
BAAQMD	Bay Area Air Quality Management District
Basin Plan	June 2019 Water Quality Control Plan for the Central Coastal Basin
bgs	below ground surface
BMP	best management practice
BSA	biological study area
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CCZEVS	Central Coast Zero Electric Vehicle Strategy
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	Methane
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information System
City	City of Scotts Valley
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide

Acronym/Abbreviation	Definition
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibels
DOC	Department of Conservation
DTSC	Department of Toxic Substances Control
DPM	diesel particulate matter
DWR	Department of Water Resources
DWSAP	Drinking Water Source Assessment Program
EIA	U.S. Energy Information Administration
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHSZ	fire hazard severity zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
gpm	gallons per minute
GSP	Groundwater Sustainability Plan
GWP	global warming potential
HCP	habitat conservation plan
HFC	Hydrofluorocarbon
HMBP	Hazardous Materials Business Plan
in/sec	inches per second
IPaC	Information, Planning, and Consultation
IS	initial study
kWh	kilowatt-hours
LAFCO	Local Agency Formation Commission
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
L_{dn}	day-night noise level
LED	light-emitting diode
L_{eq}	energy-equivalent average noise level
L_{max}	maximum noise level
LOS	level of service
LRA	local responsibility area
LUST	leaking underground storage tank
MBARD	Monterey Bay Air Resources District

Acronym/Abbreviation	Definition
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MM	Mitgation Measure
MT	metric ton
MPO	Metropolitan Planning Organization
MND	mitigated negative declaration
MRZ	Mineral Resource Zone
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
mya	million years ago
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCAB	North Central Coast Air Basin
NCCP	natural community conservation plan
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHMLA	Natural History Museum of Los Angeles County
NIST	National Institute of Standards and Technology
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRC	noise reduction coefficient
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
PPV	peak particle velocity
Project	Grace Way Well Project
RCNM	Roadway Construction Noise Model
RMS	root-mean-square
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCCEH	Santa Cruz County Environmental Health

Acronym/Abbreviation	Definition
SEL	sound exposure level
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SLMs	sound level meters
SLVWD	San Lorenzo Valley Water District
SMARA	Surface Mining and Reclamation Act
SMGWA	Santa Margarita Groundwater Agency
SO_2	sulfur dioxide
SO_x	sulfur oxides
SRA	state responsibility area
STC	sound transmission class
SVP	Society of Vertebrate Paleontology
SVWD	Scotts Valley Water District
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDL	Total Maximum Daily Load
TPZ	timber production zone
TL	transmission loss
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VdB	vibration decibels
VFD	variable frequency drive
VMT	vehicle miles traveled
WY	water year

1 Introduction

1.1 Project Overview

The Scotts Valley Water District (SVWD) proposes to construct and operate one new groundwater extraction well on SVWD-owned property comprising a single parcel (Assessor's Parcel Number [APN] 022-031-13) at 5297 Scotts Valley Drive, Scotts Valley, California. The well would be 1,000 feet deep into the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin. The primary purpose of the Project is to provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand as older wells reach the end of their useful life and are taken out of service, as well as strengthen the SVWD's ability to meet potential demand to deliver water to neighboring agencies under drought or emergency conditions in support of regional water supply planning efforts. Additionally, the Project would provide drought resiliency by enabling the SVWD to shift groundwater pumping away from areas where the greatest Lompico aquifer groundwater level declines have historically occurred in south Scotts Valley.

1.2 California Environmental Quality Act Compliance

The California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) serves as the main framework of environmental law and policy in California. There are also regulations implementing CEQA, known as the CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000 et seq.). CEQA emphasizes the need for public disclosure and identifying and preventing environmental damage associated with proposed projects. Unless a proposed project is deemed statutorily or categorically exempt or is subject to the so-called "common sense" exemption, CEQA is applicable to any project that must be approved by a public agency in order to be processed and established. The Project does not fall under any of these exemptions and, therefore, must meet CEQA requirements.

The SVWD is the lead agency pursuant to CEQA and is responsible for preparing, considering, and as appropriate, adopting the CEQA document for the Project. The SVWD has determined that a mitigated negative declaration (MND) is the appropriate environmental document to be prepared for the Project in compliance with CEQA. This finding is based on the Initial Study Checklist (Chapter 3 of this document). Per the CEQA Guidelines, a MND may be prepared for a project subject to CEQA if an initial study (IS) has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the project proponent before the proposed MND and IS are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur; and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment (California Public Resources Code Section 21064.5).

This IS/MND has been prepared by the SVWD as the lead agency and in conformance with Section 15070 of the CEQA Guidelines. The purpose of the IS/MND is to determine the potential significant impacts associated with the implementation of the Project, and to incorporate mitigation measures, as necessary, to reduce or eliminate the significant or potentially significant effects of the Project.

In addition to lead agencies, responsible and trustee agencies have roles in the environmental review process. A responsible agency under CEQA is a state, regional, or local public agency other than the CEQA lead agency that has discretionary approval over at least some portion of a project. A CEQA responsible agency's obligations are more limited than those of the lead agency, in that the responsible agency is responsible for considering only the effects of those project activities it is required by law to carry out or approve. A CEQA trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of California.

This IS/MND is intended to be used by responsible and trustee agencies that may have an interest in reviewing the Project. At the time of the IS/MND's publication, the SVWD does not believe permits or authorizations required from other agencies or individuals would require such agencies' or individuals' need to comply with CEQA.

1.3 Public Review Process

In reviewing the IS/MND, affected public agencies and the interested public are encouraged to focus on the sufficiency of the identification, analysis, and mitigation of possible impacts on the environment in the document.

The SVWD has issued a Notice of Intent (NOI) to Adopt a MND for the Project. Comments may be made on the IS/MND in writing before the end of the public review period. A 30-day review and comment period from Monday, November 20, 2023, to Wednesday, December 20, 2023, has been established in accordance with CEQA Guidelines Section 15072(a). Following the close of the public comment period, the SVWD will consider this IS/MND and any public comments received during the public review period in determining whether to adopt the MND, adopt the Mitigation Monitoring and Reporting Program (MMRP), and approve the Project design and construction bid package for the Project.

Written comments on the IS/MND must be received by 5:00 p.m. on Wednesday, December 20, 2023. All written comments should be sent by email or mail to the contact listed below. Please include a return address and contact name:

David McNair
General Manager
Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, California 95066
dmcnair@svwd.org

2 Project Description

This chapter provides a description of the proposed Grace Way Well Project (Project), and includes information about the overview and purpose, background, location and setting, components, construction, operations and maintenance, and required project approvals.

2.1 Overview and Purpose

The SVWD proposes to construct and operate one new groundwater extraction well on SVWD-owned property comprising a single parcel (Assessor's Parcel Number [APN] 022-031-13) at 5297 Scotts Valley Drive, Scotts Valley, California. The well would be 1,000 feet deep into the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin. The primary purpose of the Project is to provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand as older wells reach the end of their useful life and are taken out of service, as well as strengthen the SVWD's ability to meet potential demand to deliver water to neighboring agencies under drought or emergency conditions in support of regional water supply planning efforts. Additionally, the Project would provide drought resiliency by enabling the SVWD to shift groundwater pumping away from areas where the greatest Lompico aquifer groundwater level declines have historically occurred in south Scotts Valley.

2.2 Background

The SVWD provides water service to a population of 11,800 through approximately 4,330 connections covering most of the incorporated area of the City of Scotts Valley (City) and some unincorporated areas north of the City, encompassing an area of approximately 6 square miles (Santa Cruz LAFCO 2021c). For its potable water supply, the SVWD relies solely on groundwater from the Santa Margarita Groundwater Basin, which it extracts from six groundwater wells with a maximum extraction capacity of 1,400 gallons per minute (gpm) that vary from 250 feet to 1,750 feet deep (Santa Cruz LAFCO 2021c; SVWD 2023). Three water treatment plants with a combined capacity of nearly 2.06 million gallons per day treat the groundwater to meet federal and state potable water quality standards (SVWD 2023).

The SVWD shares the Santa Margarita Groundwater Basin with the neighboring San Lorenzo Valley Water District (SLVWD) and Mount Hermon Association, as well as local businesses and residents using private wells. Rainfall is the main source of natural recharge for the Basin. Drought is an ever-present challenge in the Project area because the water purveyors are reliant solely on local precipitation, local surface water storage, and local groundwater storage. Since imported water supplies are not available in the region, multi-year dry periods can quickly escalate into emergencies for the region when supplies are insufficient to meet demands.

The Santa margarita Groundwater Basin is a triangularly shaped basin generally bounded by the Zayante Fault on the northeast and the Ben Lomond Fault on the southwest. The Santa Cruz Purisima Formation, a granitic outcrop, and the Locatelli Formation generally delineate the southeastern boundary. The Santa Margarita, Lompico, and Butano Sandstones are the principal aquifers that supply groundwater in the Basin (DWR 2016; SMGWA 2021, 2023). Geographically, the Basin is generally bounded by the City of Scotts Valley and State Highway 17 on the east; the unincorporated communities of Felton, Mount Hermon, Ben Lomond, Brookdale, and Boulder Creek and State Highway 9 on the west; and the unincorporated communities of Lompico and Zayante on the north.

The decline of groundwater levels in many parts of the Santa Margarita Groundwater Basin occurred during 1985-2004, representing a loss in groundwater storage in the Basin by an estimated 28,000 acre-feet. The SVWD began actively managing groundwater in the area in the early 1980s, developed the Water Resources Management Plan in 1983 to monitor and manage water resources, and adopted a Groundwater Management Plan in 1994. The main goal of the Groundwater Management Plan is to better manage the aquifers providing the community's drinking water through the management of quantity and quality of the groundwater supply. With conservation and other management efforts by local water agencies, the total pumping from the Basin has decreased by 45% since 1997. For the last 10 years, the demand and supply in the Basin have been in balance (SVWD 2023).

Along with the SLVWD and other agencies, the SVWD also participated in the Santa Margarita Groundwater Basin Advisory Committee that was actively involved in the cooperative groundwater management of the Basin until its dissolution and substitution with the Santa Margarita Groundwater Agency (SMGWA) in 2017. Pursuant to the requirements of California's Sustainable Groundwater Management Act (SGMA), enacted in September 2014, the SMGWA's Groundwater Sustainability Plan (GSP) was adopted in 2021 and includes four key basin management goals: (1) Provide a safe and reliable groundwater supply that meets the current and future needs of beneficial users; (2) Support groundwater sustainability measures which enhance groundwater supply in the Basin, utilizing integrated water management principles; (3) Provide for operational flexibility within the Basin through a drought reserve that considers future climate change; and (4) Oversee planning and implementation of cost-effective projects and activities to achieve sustainability (SMGWA 2021).

2.3 Project Location and Setting

The proposed Project is located within the City of Scotts Valley, which is situated in northern Santa Cruz County on the upland slope of the Santa Cruz Mountains, approximately 5 miles inland from the Monterey Bay. The City is approximately 3 miles north of the City of Santa Cruz, 20 miles southwest of the City of San Jose, and 50 miles southeast of the City of San Francisco. The Project site encompasses one approximately 0.33-acre parcel at 5297 Scotts Valley Drive (APN 022-031-13), as well as some surrounding area to allow for construction of utility connections encompassing a total of approximately 0.5 acres. Figure 1 shows the Project site and its regional location.

The Project site has a General Plan land use designation of Service Commercial and is within the Service Commercial zoning district. The Project site is bounded by Grace Way to the northwest, Scotts Valley Drive to the southeast, and Service Commercial land uses to the northeast and southwest. Rural Residential and High-Density Residential land uses are located northwest of the Project site across Grace Way. Service Commercial land uses are located southeast of the Project site across Scotts Valley Drive.

The southwestern half of the Project site is developed with an approximately 2,000-square-foot, single-story commercial building constructed in 1964, an approximately 275-square-foot ancillary building, and an approximately 3,110-square-foot asphalt parking lot and driveway. The northwestern half of the Project site is undeveloped and consists of grass vegetation. Impervious surfaces cover approximately 8,200 square feet (58%) of the Project site.

SOURCE: ESRI 2023, County of Santa Cruz 2022

DUDEK

0 250 500 Feet

FIGURE 1

Project Location

Grace Way Well Project

2.4 Project Components

The Project would include the following new facilities: one groundwater well with a maximum extraction capacity of approximately 600 gpm; a concrete block building for pump controls; utility connections for raw water, stormwater, sewer, and electrical service; and associated site improvements. Figure 2 provides the preliminary site plan for these facilities, and also shows the worst-case disturbance boundary which would encompass the Project site and extend into the public roadway of Scotts Valley Drive for connections to existing utilities. The Project would include demolishing the existing buildings on the Project site but retaining the existing asphalt parking lot and driveway. New facilities would be located on the developed southeastern portion of the Project site, with the undeveloped northwestern portion potentially used for storage. The Project would not result in an increase in impervious surface area on the Project site over existing conditions. No tree removal would be required as there are no trees on site.

Well construction activities would meet the minimum requirements established in the California Well Standards, including California Department of Water Resources (DWR) Bulletin 74-81 (Water Well Standards: State of California) and draft supplemental Bulletin 74-90 (California Well Standards). Siting and construction of the well would comply with the California Waterworks Standards (California Code of Regulations, Title 22, Division 4, Chapter 16).

The following sections provide additional details on each of the Project components.

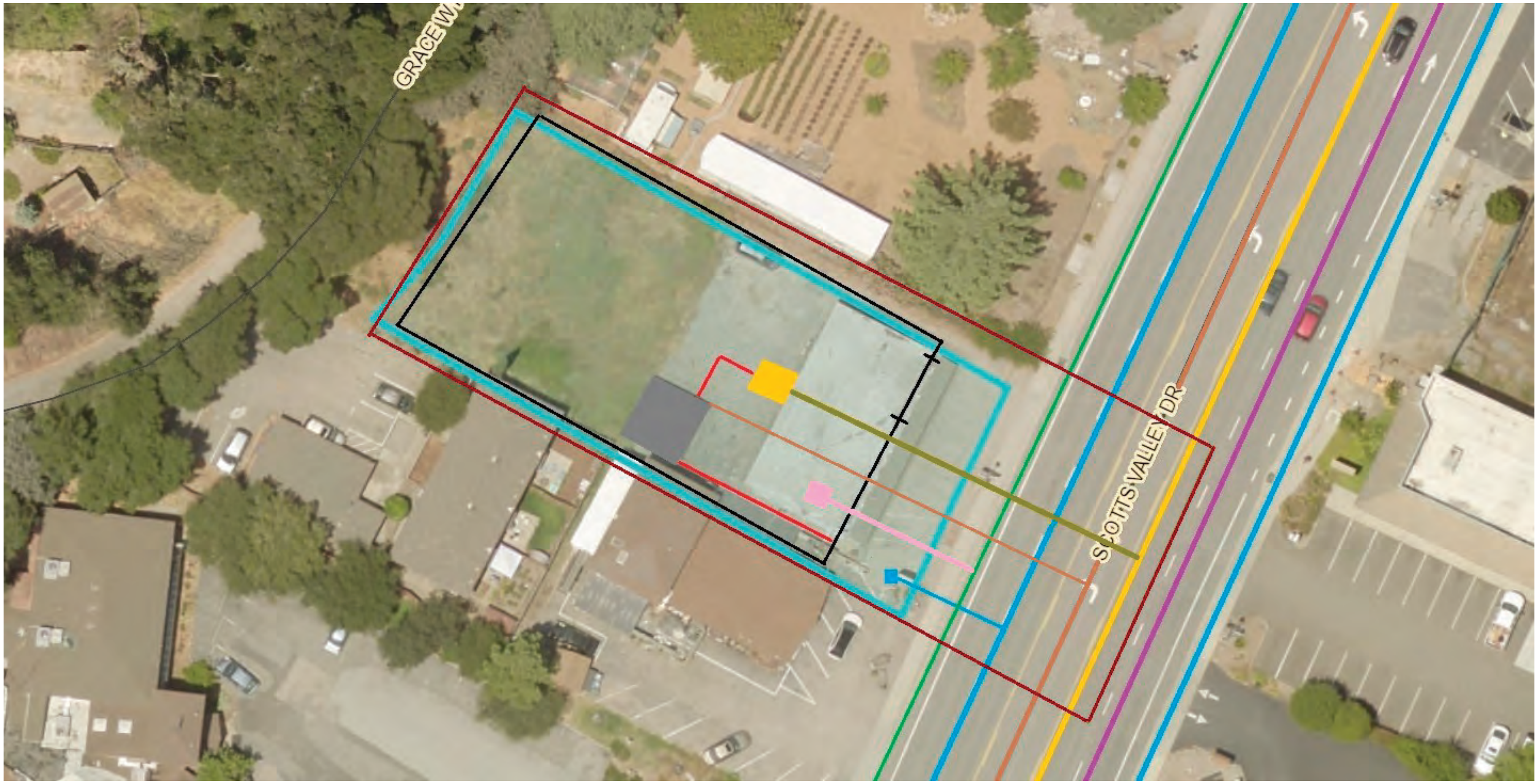
2.4.1 Groundwater Well

The groundwater well would include the following elements:

- Construction of an approximately 34-inch-diameter conductor casing to a depth of approximately 55 feet below ground surface (bgs). The conductor casing serves to both stabilize the upper formations during borehole drilling and provide the required minimum 50-foot California Division of Drinking Water sanitary seal.
- Construction of an approximately 28-inch-diameter borehole to a depth of approximately 1,000 feet bgs. A 14-inch-outer-diameter well casing assembly would extend from approximately 3 feet above ground surface to a depth of approximately 1,000 feet bgs with a well screen from approximately 500 to 980 feet bgs.
- Construction of one gravel feed tube. A graded gravel envelope would extend in the annular (ringed-shaped) space between the well casing and the borehole from approximately 450 feet to 1,000 feet bgs and a sand-cement grout annular seal would extend from approximately 450 feet bgs to the ground surface.
- Installation of an estimated 125-horsepower submersible pump in the well, supported by a concrete pedestal surrounded by a concrete pad. The well pump would use an estimated 635-kilowatt hours (kWh) per day, based on 24-hour operation at 600 gpm.

2.4.2 Pump Control Building

The pump control building would consist of a single-story, approximately 100-square-foot, concrete block building that would house the pump motor control center and associated electrical equipment and instrumentation. The well pump and motor control would be operated on a variable frequency drive (VFD) and would be controlled using local system pressure based on water demand in the SVWD system. The VFD would adjust pump speed to meet fluctuating water demands while maintaining a constant set pressure. The VFD would contain alarm indicators that would sound under conditions that may affect VFD operation or performance. Alarms would be less than 60 decibels (dB) located inside of the building, and would not be audible from outside the building.



Existing Treated Water Main
Existing Raw Water Main
Existing Recycled Water Main
Existing Storm Drain
Existing Water Meter
Existing Sanitary Sewer
Proposed Production Well

Proposed Electrical Conduit
Proposed Pump Control Building
Proposed Sewer Connection
Proposed Fence
Proposed Gate
Proposed Raw Water Lateral
Proposed Strom Drain Lateral

Disturbance Area
Parcel Boundary

DUDEK

FIGURE 2
Site Plan
Grace Way Well Project

The building would have ventilation cutouts to maintain the indoor temperature well below the maximum operating temperature of the VFDs. If deemed necessary to attenuate noise produced by the equipment, ventilation cutouts would be covered with acoustic louvers. In addition to ventilation cutouts, penetrations to the building would include electrical conduit from the motor controls to the wellhead. Exterior lighting at the pump control building would consist of light-emitting diode (LED), downward-directional lighting fixtures mounted above the building entrance and would be controlled by a photocell which would switch the light on at dusk and off at dawn.

Duty cycles for the well pump and motor controls would be based on water storage demand. When water is needed, a signal would turn on the well pump and motor controls and once demand is satisfied, the pump and controls would automatically shut off. This cycle could range from several times a day, to full-time operation, to non-operation, based on seasonal demand.

2.4.3 Utility Connections

The Project would be served by the existing utilities near the Project site with new service connections provided for the groundwater well facilities. The Project would not use natural gas. Electrical service would be provided by Pacific Gas & Electric Company (PG&E). Electrical conduit would be installed from the pump control building to the wellhead, and from the pump control building to the existing electrical connection near the proposed fence. A transfer switch would be installed for use of a portable backup generator to provide a temporary power source for system operation, if needed in the event of a power outage.

The pump control building would be connected to the local sanitary sewer system, which conveys wastewater to the Scotts Valley Water Reclamation Facility for treatment prior to discharge and reuse. A storm drain lateral would be installed to connect to the existing storm drain along Scotts Valley Drive. The drain would be a minimum of 18 inches in diameter, per City of Scotts Valley specifications. An 8-inch-diameter raw water lateral would be constructed to connect the wellhead to an existing raw water main running down the center of Scotts Valley Drive. The raw water pipeline would transport the pumped groundwater to the El Pueblo Water Treatment Plant at 70 El Pueblo Road, approximately 0.25 miles southeast of the Project site.

2.4.4 Other Site Improvements

Landscaping would be planted around the property frontage along Scotts Valley Drive and would include drought-tolerant vegetation consistent with the existing neighborhood. The Project would also include installation of a perimeter fence around the entirety of the Project site, as shown on Figure 2. An access gate would be located on the driveway off of Scotts Valley Drive at the northeastern corner of the site. Other security measures for the Project site, such as motion-sensing cameras, would be installed as necessary.

Existing vehicular access to the site from Scotts Valley Drive would be maintained as the permanent access for the facility and no access improvements would be required. Parking would be accommodated within existing asphalt-concrete areas present at the site.

2.5 Construction

Construction activities are planned to commence in approximately spring 2024 and would continue over the course of approximately 10 months, concluding in early 2025. Construction would occur in two phases. Construction activities would begin with mobilization and site preparation, including demolition of the existing buildings, and well drilling and testing, lasting approximately four months. Once the well construction and groundwater quality sampling is completed, a second phase would begin to construct the aboveground facilities including well equipping, pump controls, and utility connections, lasting approximately three months. Standard construction equipment for well installation and testing would include: a drilling rig, forklift, backhoe, dump trucks, concrete delivery with pumping equipment, generator, air compressor, crane, vertical turbine well pump and engine, as well as personal vehicles or other ancillary equipment. Standard construction equipment for the aboveground facilities would include: a bulldozer, loader, excavator, forklift, dump trucks, roller/compactor, concrete delivery and pumping equipment, generator, crane, and asphalt paver.

Figure 2 shows the limits of construction disturbance, including disturbance from construction staging and laydown areas and utility connections, which encompasses approximately 0.5 acres. Construction equipment and materials staging, as well as construction worker parking, would be located on the Project site. Temporary lane closures on Scotts Valley Drive may be required during connections to existing utilities in the roadway.

To the extent feasible, construction activities would be limited to daytime hours, between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays. However, well drilling would require a continuous 24-hour-per-day, 7-day-per-week schedule during certain aspects of the well installation process for a total of 36 days over an approximately 3-month period to avoid the risk of borehole collapse. In addition, the pilot borehole drilling, reaming, well installation, mechanical and chemical development, and constant-rate discharge testing would be completed on a 24-hour-per-day schedule for the integrity of the well or test. These 24-hour-per-day activities would be required during well drilling and construction (30 days), well development (5 days), and aquifer testing (1 day).

Before initiation of the well drilling phase, a 24-foot-tall temporary barrier would be installed around the well construction area to reduce noise, light, and dust from 24-hour-per-day well drilling activities. In addition, the SVWD would post contact information at the Project site for any noise complaints and would address noise complaints on a case-by-case basis. Temporary construction lighting would be required for 24-hour well drilling activities; lighting would be directed downwards toward the Project site and away from adjacent residences. Once the well construction is completed, the temporary barrier would be removed. Construction of the control building, utility connections, and other site improvements would not require 24-hour-per-day construction activities and therefore would not require the temporary noise barrier.

The area surrounding the proposed well site would be graded (as needed) to create a level pad for supporting a drill rig and other equipment. Well drilling would occur over approximately 3 months using the reverse rotary drilling method. Reverse rotary drilling involves sending fluid (i.e., drilling mud mixed with water) down the annular space between the drillpipe and the borehole. The fluid reenters the drillpipe with cuttings entrained, removing cuttings back up the drillpipe and into a settling pit. As drilling continues, the excavated material is replaced with fluid. Drill fluid would be contained and removed as necessary during the course of the work and disposed of at a facility licensed to handle non-toxic and non-hazardous liquid waste using a qualified vacuum truck. There would be no discharge of well installation materials or fluids generated during construction of the well into any storm drain.

Development of the well would begin after the drilling is completed and the annular seal has set for an adequate amount of time. Groundwater generated during initial development would be diverted to the on-site sanitary sewer connection and discharged in accordance with a sewer discharge permit from the City of Scotts Valley. Various well pumping tests would be performed after final well development. These tests would include a step-rate discharge test where the discharge rate would be increased through a sequence of pumping intervals, and, after groundwater levels in the new well stabilize, a constant-rate discharge test where continuous pumping would occur for 24 hours at the design capacity of 600 gpm or at a rate determined by the step-rate discharge test. A groundwater sample would be collected and delivered to a California-certified laboratory under appropriate chain-of-custody to verify the water quality produced. Discharge of final development and testing groundwater would be diverted to a stormwater drain inlet on the west side of Scotts Valley Drive and just east of the northeast corner of the property. Installation and maintenance of temporary discharge piping would be required.

The Project would include installation of pipelines to connect the new well to the SVWD's raw water distribution system, and the City's stormwater and sanitary sewer systems. The Project also would require installation of new electrical conduits. Proposed pipelines and electrical conduits would be installed below ground using standard open-trench construction methods. Open-trench construction would involve the following steps: pavement cutting, trench excavation and shoring to stabilize the sides of the trench, if necessary, pipeline or conduit installation, trench backfilling and compacting, and surface restoration. The required pipeline and conduit trenches would be excavated up to a depth of approximately 4 feet and 2 feet, respectively. During installation, open trenches within roadways would be covered at the end of each workday with steel plates or similar materials to accommodate vehicle access during non-work hours. Soil excavated during well facility construction and pipeline installation may be used as backfill around the facilities or may be hauled off-site for recycling or disposal.

The SVWD operates under the Statewide National Pollutant Discharge Elimination System (NPDES) Permit for Drinking Water System Discharges to Waters of the United States (Order WQ 2014-0194-DWQ, General Order No. CAG140001) issued by the State Water Resources Control Board (SWRCB). The NPDES Permit allows the SVWD to discharge water into regional stormwater systems pursuant to Section 402 of the federal Clean Water Act (NPDES Permit) and Article 4, Chapter 4, Division 7 of the California Water Code (Waste Discharge Requirements). All water discharged to the storm drain would comply with the NPDES Permit requirements.

2.6 Operation and Maintenance

Operation and maintenance of the new well would be consistent with ongoing SVWD groundwater well operations. The proposed groundwater production well would be operated on an as-needed basis. The proposed well could be operated continuously or for shorter intervals, depending on the demand for water. For the purposes of evaluation, the proposed well facility would pump approximately 270 to 313 acre-feet per year (88 to 102 million gallons per year).

Ongoing project operation and maintenance would generate approximately five weekly trips to the project site by SVWD staff; however, no new SVWD employees would be required. Routine operation and maintenance would entail regular activities and procedures to ensure the proper functioning, longevity, and safety of the well system, such as visual inspections of the wellhead, casing, pump, and associated equipment; water quality testing; and pump maintenance, including checking pump performance, lubricating parts, inspecting electrical connections, and replacing worn-out components as necessary. General site maintenance, including landscaping and vegetation control, would occur on a weekly or bi-monthly basis, depending on the season. Regular and routine maintenance activities would not include any ground-disturbing activities. Maintenance vehicles would park on the Project site.

The SVWD would routinely exercise the well, when not in regular use, to ensure that the facilities are maintained and remain operational. This would entail pumping water out of the well at a high rate to remove sediment, debris, and accumulated minerals to improve the flow of water into the well. Well exercising would be anticipated to occur either weekly or monthly. The well would be exercised for one hour per week or for a single, four-hour period monthly. Operators may fine-tune the exercise schedule according to the characteristics of the well. Groundwater pumped during exercising would be discharged to the adjacent stormwater system per the SVWD's NPDES Permit.

Project operation would also include the following standard operational practice.

> Operation of the extractions anticipated by the Project will be consistent with sustainable management criteria developed by the SMGWA, including ensuring undesirable results identified in the DWR-approved Santa Margarita Groundwater Basin GSP and in any future revisions to the GSP do not occur. To avoid any undesirable results in the Santa Margarita Groundwater Basin and to maintain groundwater basin sustainability, minimum threshold groundwater elevations identified in the GSP at representative monitoring points close to the Project cannot be exceeded during operation of the Project. If groundwater elevations approach minimum thresholds in representative monitoring points close to the Project, the SVWD would need to redistribute pumping amongst its other wells or implement conjunctive use or managed recharge projects.

2.7 Project Approvals

The following discretionary approvals would be required for implementation of the Project:

- SVWD: Adoption of the IS/MND and approval of Project design and construction bid package for the Project.
- City of Scotts Valley: Approval of encroachment permits and traffic control plans for work in public roadways.
- SWRCB Division of Drinking Water: Application for an amended domestic water supply permit must be made as required by California Health and Safety Code, Division 104, Part 12, Chapter 4 (California Safe Drinking Water Act), Section 116550. In addition, a Water Supply Permit Environmental Intake form must be completed and include all CEQA documentation, well drilling technical specifications, well plot plans, Well Driller's Report and copy of Santa Cruz County well drilling permit, well data sheet, Drinking Water Source Assessment Program (DWSAP) documentation, well capacity test report, and initial Title 22 water quality results.

Although the Project is located within the City of Scotts Valley, the SVWD is not required to obtain building or grading permits from the City of Scotts Valley, pursuant to California Government Code Sections 53091(d) and (c), which provide that facilities for the production, generation, storage, treatment, or transmission of water supplies are exempt from local zoning and building ordinances.

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3 Initial Study Checklist

1. Project title:

Grace Way Well Project

2. Lead agency name and address:

Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, California 95066

3. Contact person and phone number:

David McNair, General Manager
(831) 600-1902

4. Project location:

5297 Scotts Valley Drive, Scotts Valley, California (APN 022-031-13)

5. Project sponsor's name and address:

Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, California 95066

6. General plan designation:

Service Commercial

7. Zoning:

Service Commercial

8. Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):

The SVWD proposes to construct and operate one new groundwater extraction well and associated site improvements on SVWD-owned property comprising a single parcel (APN 022-031-13) at 5297 Scotts Valley Drive, Scotts Valley, California. The well would be 1,000 feet deep into the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin. The primary purpose of the Project is to provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand as older wells reach the end of their useful life and are taken out of service, as well as strengthen the SVWD's ability to meet potential demand to deliver water to neighboring agencies under drought or emergency conditions in support of regional water supply planning efforts. Additionally, the Project would provide drought resiliency by enabling the SVWD to shift groundwater pumping away from areas where the greatest historical Lompico aquifer groundwater level declines have occurred in south Scotts Valley. See Chapter 2, Project Description, for further details.

9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

The Project site is bounded by Grace Way to the northwest, Scotts Valley Drive to the southeast, and Service Commercial land uses to the northeast and southwest. Rural Residential and High-Density Residential land uses are located northwest of the Project site across Grace Way. Service Commercial land uses are located southeast of the Project site across Scotts Valley Drive.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

City of Scotts Valley, County of Santa Cruz, and SWRCB Division of Drinking Water – Monterey District

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

No

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry Resources	☐	Air Quality
☒	Biological Resources	☒	Cultural Resources	☐	Energy
☒	Geology and Soils	☐	Greenhouse Gas Emissions	☐	Hazards and Hazardous Materials
☒	Hydrology and Water Quality	☐	Land Use and Planning	☐	Mineral Resources
☒	Noise	☐	Population and Housing	☐	Public Services
☐	Recreation	☐	Transportation	☒	Tribal Cultural Resources
☒	Utilities and Service Systems	☐	Wildfire	☒	Mandatory Findings of Significance

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

General Manager 11-14-23

Signature Date

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-than-Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used. Identify and state where they are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are “Less Than Significant With Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
   a. the significance criteria or threshold, if any, used to evaluate each question; and
   b. the mitigation measure identified, if any, to reduce the impact to less than significance

3.1 Aesthetics

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Setting

The City is characterized by concentrated urbanization in the generally flat valleys along Carbonera Creek and its tributaries, surrounded by adjacent hillsides and largely undeveloped forested ridgetops. The Scotts Valley General Plan identifies prominent forested ridges and important vistas that are attractive focal points for scenic views. Vistas are the major places where stationary or momentary views are available because of the topography and existence of public spaces such as roads. Prominent ridges parallel Highway 17 on the east and Scotts Valley Drive on the west, surround the City limits north and west of Glenwood Drive, and follow the Bean Creek/Zayante Creek divide in the southwestern part of the City. Important vistas are available from higher vantage points toward the ridges, or toward the broad sweep of the valley below, and are located in the southern part of the City on Highway 17, Mount Hermon Road, Scotts Valley Drive, and Whispering Pines Drive, and in the northern part of the City near the Glenwood Open Space Preserve (City of Scotts Valley 1994a).

Scenic road corridors in the City include those with dense vegetation and absence of development, including winding roads through steep redwood-forested canyons. The Scotts Valley General Plan identifies portions of Bean Creek Road, Glen Canyon Road, Glenwood Drive, Granite Creek Road, Green Hills Road, La Madrona Drive, Lockewood Lane, and Vine Hill Road as being located within scenic road corridors. In the unincorporated areas, the County of Santa Cruz has designated Highway 17, Graham Hill Road, and Mount Hermon Road as scenic roads worthy of viewshed protection (County of Santa Cruz 2020). Highway 17 is also eligible as a State Scenic Highway, though not officially designated (Caltrans 2020).

A) ***Would the project have a substantial adverse effect on a scenic vista?***

Less-than-Significant Impact. No important vistas mapped in the Scotts Valley General Plan are located near the Project site, or oriented toward the Project site. Approximately 0.25 miles beyond the Project site to the west, a densely forested ridgeline, mapped as a prominent ridge in the Scotts Valley General Plan, forms a scenic backdrop. Development on the Project site would be situated below the ridgeline and would not affect long-range views of the ridgeline beyond the developed commercial area. Therefore, the Project would have a less-than-significant impact on scenic vistas.

b) ***Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***

No Impact. California's State Scenic Highway Program was created by the Legislature in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. As described above, no officially designated State Scenic Highways are located in the Project area. Highway 17 is an eligible State Scenic Highway and is located approximately 0.25 miles east of the Project site. The Project site is not visible from Highway 17 due to dense vegetation, nor is it visible from any City-designated scenic road corridors or County-designated scenic roads. Furthermore, the Project would have no effect on trees, rock outcroppings, or historic buildings. Therefore, no impact related to damage of scenic resources within a scenic highway would occur.

c) ***In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

Less-than-Significant Impact. Pursuant to Public Resources Code Section 21071, an "urbanized area" is defined as an incorporated city with at least 100,000 persons. Given that the population of the City is well below this population level, the Project site is considered to be located in a "non-urbanized area" for the purposes of this analysis. Nonetheless, the Project is exempt from local zoning and building ordinances as a facility for the production, generation, and transmission of water supplies pursuant to California Government Code Sections 53091(d) and (c); therefore, it would not conflict with applicable zoning and other regulations governing scenic quality.

Public views of the Project site are available from Scotts Valley Drive looking toward the west and from Grace Way looking toward the east. Viewers would consist primarily of motorists and pedestrians traveling on Scotts Valley Drive and Grace Way, and visitors to surrounding commercial buildings, who would generally view the site for a short duration. The area immediately surrounding the Project site is characterized by primarily commercial development with residential development to the northwest. The Project would replace the existing commercial use on the Project site with public infrastructure in the form of a groundwater well and associated facilities. While the Project would result in a change in use of the site, it would result in a neutral change in visual character and quality, as the site would still contain a single-story building and would appear generally consistent with surrounding development. As discussed above, approximately 0.25 miles beyond the Project site to the west, a densely forested ridgeline, mapped as a prominent ridge in the Scotts Valley General Plan, forms a scenic backdrop. Development on the Project site would be situated below the ridgeline and would not affect long-range views of the ridgeline beyond the developed commercial area. Therefore, the Project would have a less-than-significant impact on the visual character and quality of public views of the site and its surroundings.

d) ***Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

Less-than-Significant Impact. The Project would require the use of lighting during construction and operation. Typical construction activities occurring during daytime hours would not require the use of lighting. However, construction lighting may be necessary during the early morning hours in the late fall and early winter months, and nighttime construction lighting would be required during the 24-hour well drilling activities. As described in Section 2.5, Construction, a 24-foot-tall temporary barrier would be installed around the well construction area before initiation of well drilling, and all construction lighting would be directed downward and away from adjacent residences. Given the shielding provided by the temporary barrier, downward-directional lighting, orientation away from sensitive receptors, and temporary duration of construction activities, no direct beam illumination would occur outside of the Project site boundary.

Once operational, the Project would include limited exterior security lighting consisting of LED lighting mounted above the entrance to the pump control building. This would appear similar to other existing nighttime security lighting at adjacent commercial land uses surrounding the Project site. As described in Section 2.4.2, Pump Control Building, this lighting would be directed downward so that it would only illuminate the building entrance to prevent light pollution on surrounding residences and the night sky. The lighting would be controlled by a photocell that measures available daylight to minimize unnecessary lighting and would switch the light on at dusk and off at dawn. Therefore, the Project would have a less-than-significant impact related to creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Setting

The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. According to maps prepared pursuant to the FMMP, neither the City of Scotts Valley nor the Project site contains any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2023).

The City of Scotts Valley, including the Project site, does not contain agricultural zoning (City of Scotts Valley 2023) or lands enrolled in Williamson Act contracts (DOC 2022). No land in the City, including the Project site, is zoned for forest land or timberland (City of Scotts Valley 2023). The Scotts Valley General Plan identifies two timber production zones (TPZs), located just outside of the City limits to the northwest and the southeast (City of Scotts Valley 1994a).

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. As indicated above, neither the City of Scotts Valley nor the Project site contains any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on maps prepared pursuant to the FMMP. The FMMP designates the Project site and surrounding area as Urban and Built-Up Land (DOC 2023). Therefore, the Project would have no impact on Farmland.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. As indicated above, the City of Scotts Valley, including the Project site, does not contain agricultural zoning (City of Scotts Valley 2023) or lands enrolled in Williamson Act contracts (DOC 2022).

Therefore, the Project would have no impact related to conflicts with existing zoning for agricultural use or a Williamson Act contract.

c) ***Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?***

No Impact. As indicated above, no land in the City of Scotts Valley, including the Project site, is zoned for forest land or timberland (City of Scotts Valley 2023). The Scotts Valley General Plan identifies two timber production zones (TPZs), located just outside of the City limits to the northwest and the southeast, which are not located near the Project site (City of Scotts Valley 1994a). Therefore, the Project would have no impact related to conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production.

D) ***Would the project result in the loss of forest land or conversion of forest land to non-forest use?***

No Impact. As described above, no forest land is located on or near the Project site. Therefore, the Project would have no impact related to the loss or conversion of forest land.

e) ***Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***

No Impact. As previously discussed, no Farmland or forest land is located on or near the Project site. Therefore, the Project would have no impact related to conversion of Farmland or forest land.

3.3 Air Quality

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Setting

Air Quality Standards and Attainment

The Project site is in the North Central Coast Air Basin (NCCAB) under the jurisdiction of the Monterey Bay Air Resources District (MBARD). As the local air quality management agency, the MBARD is required to monitor air pollutant levels to ensure that the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the NCCAB is designated as being in “attainment” or “nonattainment.” The NCCAB is designated as in attainment for all NAAQS including ozone (O_3), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). The NCCAB is designated as in attainment or unclassified for all CAAQS except for PM_{10}, for which it is designated as nonattainment.[1]

Air Pollutant Emissions Thresholds

Criteria Air Pollutants

The MBARD has established thresholds of significance for criteria air pollutants of concern for construction and operations (MBARD 2008). For construction, the threshold is 82 pounds per day of PM_{10}. Construction projects using typical construction equipment such as dump trucks, scrappers, bulldozers, compactors and front-end loaders that temporarily emit other air pollutants, such as precursors of O_3 (i.e., ROG and NO_x), are accommodated in the emission inventories of state- and federally required air plans and would not have a significant impact on the ambient air quality standards (MBARD 2008). For operations, the thresholds are 137 pounds per day for ROG or NO_x, 550 pounds per day of CO, 150 pounds per day of sulfur oxides (SO_x), and 82 pounds per day of PM_{10} from on-site sources. For the purposes of this analysis, the Project would result in a significant impact if construction or operational emissions from the Project would exceed the MBARD thresholds.

Air Quality Management Plan Consistency and Cumulative Impacts

Consistency with the AQMP is used by MBARD to determine a project’s cumulative impact on regional air quality (i.e., O_3 levels). Projects which are not consistent with the AQMP have not been accommodated in the AQMP and will have a significant cumulative impact on regional air quality unless emissions are totally offset (MBARD 2008). For localized impacts of the Project (i.e., PM_{10}), the threshold for cumulative impacts is the same as that noted above (82 pounds per day of PM_{10}) for the project-level analysis because air quality impacts are cumulative in nature.

Carbon Monoxide Hotspots

For localized CO, the MBARD does not have screening levels for intersection traffic that could result in potential CO hotspots; however, other air districts have established screening levels, which are described below to provide context on the magnitude of hourly volumes that could result in significant localized CO:

[1] In 2020, MBARD was redesignated to attainment for the CAAQS O_3 standard.

- The South Coast Air Quality Management District (SCAQMD) conducted CO modeling for its 2003 Air Quality Management Plan (SCAQMD 2003) for the four worst-case intersections in the South Coast Air Basin. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of approximately 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least more than 100,000 vehicles per day.
- The Bay Area Air Quality Management District (BAAQMD) determined that projects would result in a less-than-significant impact to localized CO concentrations if (1) project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour, or (2) project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (BAAQMD 2022).

The BAAQMD screening criterion of 24,000 vehicles per hour has been applied to this project as a metric to evaluate CO hotspots, since it is the most conservative of the screening volumes.

Toxic Air Contaminants

Toxic air contaminants (TACs) are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The MBARD recommends an incremental cancer risk threshold of 10 in 1 million. "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology. In addition, some TACs have noncarcinogenic effects. The MBARD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) effects.[2]

Analytical Methods

Air pollutant emissions generated by Project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.[3] CalEEMod uses project-specific information to model a project's construction and operational emissions. CalEEMod input parameters, including the Project land use type and size and construction schedule, were based on information provided by the SVWD, or default model assumptions if Project specifics were unavailable. Appendix A contains the detailed CalEEMod report. Additional information on how impacts were analyzed is provided below.

[2] Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various noncarcinogens from the Proposed Project to published reference exposure levels that can cause adverse health effects.

[3] CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities.

Construction

Construction emissions modeled include emissions generated by construction equipment use on site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in use by emission factors. Construction was modeled beginning in March 2024 and concluding in January 2025,[4] based on the following phases and approximate durations:

- Mobilization: March 2024 (5 workdays)
- Demolition: April – May 2024 (30 workdays)
- Site preparation: June 2024 (10 workdays)
- Grading: July 2024 (5 workdays)
- Well drilling: August – September 2024 (36 workdays)
- Additional haul trucks for concrete and drill fluids: September 2024 (6 workdays)
- Well development and testing: October 2024 (6 workdays)
- Conduit and pipeline connections: October 2024 (15 workdays)
- Paving: November 2024 (10 workdays)
- Building construction: November 2024 – January 2025 (35 workdays)
- Demobilization: January 2025 (5 workdays)

Additional modeling assumptions included the following:

- Approximately 2,275 square feet of existing buildings would be demolished.
- 85 cubic yards of concrete would be required for the Project.
- Drill fluid disposal would occur within 100 miles of the Project site.
- Soils from grading and excavation of the utility trenches would be balanced on site. Spoils from well drilling may be used as backfill on site or could be hauled to a landfill (included as Additional Haul Truck phase above).
- For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week and 8 hours per day, except for the well drilling and well development phases, which would occur over a 24-hour period, 7 days per week.

Construction modeling assumptions for equipment and vehicles are provided in Table 1.

4 The analysis assumes a construction start date of March 2024, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and greenhouse gas emissions, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 1. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment			
	Average Daily Workers	Average Daily Vendor Trucks	Average Daily Haul Trucks	Type	Horsepower	Quantity	Daily Usage Hours
Mobilization	8	2	2	Graders	148	1	8
				Tractors/loaders/ backhoes	84	1	8
Demolition	8	2	2	Tractors/loaders/ backhoes	84	1	5
				Skid steer	71	1	2
				Concrete/ industrial saws	33	1	8
Site preparation	8	2	0	Graders	148	1	8
				Tractors/loaders/ backhoes	84	1	8
Grading	8	2	0	Graders	148	1	6
				Rubber-tired dozer	367	1	6
				Tractors/loaders/ backhoes	84	1	7
Well drilling	10	2	0	Bore/drill rig	83	1	24
				Forklifts	82	1	8
				Pumps	11	1	24
				Tractors/loaders/ backhoes	84	1	8
				Generator sets	14	1	24
				Vertical turbine well pump and engine[1]	151	1	24
				Crane	367	1	4
				Air compressor	37	1	24
Haul trucks for concrete and drill fluids	0	4[2]	2	N/A	N/A	N/A	N/A
Well development and testing	8	2	0	Bore/drill rig	83	1	24
				Forklifts	82	1	8
				Air compressors	37	1	24
				Pumps	11	1	24
				Generator sets	14	1	24
Conduit and pipeline connections (trenching)	8	2	0	Graders	148	1	8
				Excavators	36	1	8
				Tractors/loaders/ backhoes	84	2	8

Table 1. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment			
	Average Daily Workers	Average Daily Vendor Trucks	Average Daily Haul Trucks	Type	Horsepower	Quantity	Daily Usage Hours
Paving	8	2	0	Pavers	81	1	7
				Paving equipment	89	1	7
				Rollers	36	1	7
Building construction	4	2	0	Cement and mortar mixers	10	1	3
				Concrete/ industrial saws	33	1	3
				Aerial lifts	46	1	8
				Forklifts	36	1	6
				Tractors/ILoaders/ backhoes	84	1	8
Architectural coating	4	0	0	Air compressors	37	1	6
Demobilization	6	2	2	Forklifts	36	1	6
				Tractors/loaders/ backhoes	84	1	6

Notes:
1. Modeled as "other construction equipment."
2. Heavy-duty diesel truck fleet mix assumed.

Operation

Project operation was assumed to commence in 2025 following completion of construction. Operational emissions modeled include area, energy, mobile, and stationary sources for the Project, described as follows:

- **Area sources** include emissions from consumer products, landscape equipment, and architectural coatings. Area-source emissions were estimated based on CalEEMod default assumptions for ongoing operation of the Project.
- **Energy sources** include emissions associated with building electricity and operation of the pump station. No natural gas would be used during operation of the Project. Electricity use for the pump station would contribute indirectly to criteria air pollutant emissions; however, CalEEMod does not quantify criteria air pollutants from electricity, since criteria air pollutant emissions occur at the site of the power plant, which is typically off site; therefore, they are not included in the impact assessment below.
- **Mobile sources** include emissions from vehicular traffic because of new vehicle trips to and from the Project site. While the well is operational, a daily plant check would occur resulting in up to five weekly vehicle trips, and routine maintenance would occur on a weekly basis resulting in 1 weekly vehicle trip. For purposes of this analysis, it was conservatively assumed that the Project would require one round trip per weekday to provide the "worst-case" operational emissions (two one-way trips per weekday). The CalEEMod vehicle fleet mix was revised to reflect that the vehicle trips would occur from passenger-type vehicles (e.g., light-duty auto, light-duty trucks).

- **Stationary sources** include emissions from installations at a specific location that remain stationary during their operation. In the event of a power outage, a portable backup generator would provide a temporary source of electrical power for system operation.

a) ***Would the project conflict with or obstruct implementation of the applicable air quality plan?***

Less-than-Significant Impact. As described in the MBARD CEQA Guidelines (2008), project emissions that are not accounted for in the AQMP's emission inventory would result in a significant cumulative impact to regional air quality. However, for construction of a project, exhaust emissions are accounted for in the AQMP emissions inventory (MBARD 2018), and therefore Project construction exhaust emissions would not result in a significant impact. Furthermore, as determined in Question 3.3b (discussed below), the Project would result in emissions during short-term construction and long-term operations that would not exceed the MBARD thresholds of significance. In addition, the Project would not generate population, housing, or employment growth not anticipated in the development of the AQMP since it would not result in an increase in staff for long-term operations. Therefore, the Project would have a less-than-significant impact related to conflicts with or obstruction of implementation of the AQMP.

b) ***Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

Less-than-Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and MBARD develops and implements plans for future attainment of the NAAQS and CAAQS. As indicated above, MBARD is in attainment for all NAAQS and CAAQS with the exception of the state PM_{10} standard (having recently achieved attainment for the state O_3 standard in 2020). MBARD considers emissions of ROG, NO_X, and PM_{10} from an individual project that exceed the applicable emissions thresholds to be a substantial contribution to a cumulative impact on regional air quality, and projects that do not exceed the project-level thresholds may conclude that they are not cumulatively considerable. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the Project's individual emissions would have a cumulatively considerable impact on air quality. This assessment addresses both short-term (construction) and long-term (operations) impacts and each is addressed separately below. Details of the emissions calculations are provided in Appendix A.

Construction

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and ROG off-gassing) and off-site sources (vendor and haul truck trips, and worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for fugitive dust (i.e., PM_{10} and $PM_{2.5}$), the prevailing weather conditions. Table 2 summarizes the estimated maximum unmitigated daily emissions of criteria air pollutants associated with construction of the Project. As shown in Table 2, criteria air pollutant emissions associated with Project construction would not exceed MBARD's daily thresholds. Therefore, Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard.

Table 2. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	(pounds per day)					
Summer						
2024	2.82	26.66	31.04	0.06	5.91	3.08
2025	0	0	0	0	0	0
Winter						
2024	1.58	13.11	16.15	0.03	0.58	0.49
2025	4.09	3.21	4.50	0.01	0.15	0.10
Maximum Daily Emissions	***4.09***	***26.66***	***31.04***	***0.06***	***5.91***	***3.08***
MBARD Threshold	*N/A*	*N/A*	*N/A*	*N/A*	*82*	*N/A*
Threshold Exceeded?	**N/A**	**N/A**	**N/A**	**N/A**	**No**	**N/A**

Notes: ROG = reactive organic gas; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MBARD = Monterey Bay Air Resources District.
See Appendix A for complete results.

Operations

Operation of the Project would result in the generation of criteria air pollutant emissions associated with mobile, area, and stationary sources. Table 3 summarizes the estimated maximum unmitigated daily emissions of criteria air pollutants associated with operation of the Project. As shown in Table 3, criteria air pollutant emissions associated with Project operation would not exceed MBARD's significance thresholds. Therefore, Project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard.

Table 3. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emissions Source	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	(pounds per day)					
Summer						
Mobile	<0.01	<0.01	0.06	<0.01	0.01	<0.01
Area	0.03	<0.01	0.04	<0.01	<0.01	<0.01
Stationary	0.57	1.61	1.77	<0.01	0.08	0.08
Total	**0.61**	**1.61**	**1.87**	**<0.01**	**0.10**	**0.09**
Winter						
Mobile	0.01	<0.01	0.06	<0.01	0.01	<0.01
Area	0.02	0.00	0.00	<0.01	<0.01	<0.01
Stationary	0.57	1.61	1.77	<0.01	0.08	0.08
Total	**0.60**	**1.61**	**1.83**	**<0.01**	**0.10**	**0.09**
Maximum Daily Emissions	**0.61**	**1.61**	**1.87**	**<0.01**	**0.10**	**0.09**
MBARD Threshold	*137*	*137*	*550*	*150*	*82*	*N/A*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**N/A**

Notes: ROG = reactive organic gas; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MBARD = Monterey Bay Air Resources District.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. Columns may not add due to rounding.
See Appendix A for complete results.

Conclusion

In summary, short-term construction and long-term operational activities associated with the Project would result in a minimal increase in daily criteria air pollutant emissions that would not exceed the applicable MBARD thresholds. Because the construction and operational emissions would not exceed the MBARD project-level thresholds, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard. Therefore, the Project would have a less-than-significant impact related to criteria air pollutant emissions.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact With Mitigation Incorporated. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. The term "sensitive receptors" is used to refer to facilities and structures where people who are sensitive to air pollution live or spend considerable amounts of time. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards (i.e., preschools and kindergarten through grade 12 schools), parks and playgrounds, daycare centers, nursing homes, hospitals, live-in housing (i.e., prisons, dormitories, hospices, or similar), and residential communities (sensitive sites or sensitive land uses) (CARB 2005; MBARD 2008). Sensitive receptors, predominantly residential uses, are located immediately adjacent to or within proximity to the Project site.

This discussion addresses whether the Project would expose sensitive receptors to fugitive dust (PM_{10}) or TACs in the form of diesel particulate matter (DPM) during construction, and TACs or CO hotspots during operation. Each is addressed separately as follows.

Fugitive Dust

Construction of the Project would involve minimal ground disturbance and, as shown in Table 2, total estimated PM_{10} emissions would be substantially below MBARD's threshold of significance. Most fugitive dust would remain localized and would be deposited near the Project site; in addition, as described in Section 2.5, Construction, Project construction would include implementation of BMPs to limit erosion and fugitive dust. Accordingly, fugitive dust impacts would be less than significant.

Construction Health Risks

The primary TAC of concern related to exposure of sensitive receptors is DPM generated by construction-related vehicles and equipment. The actual risk of adverse air quality effects depends on a person's current health status, the pollutant type and concentration, and the length of exposure to the polluted air. Health risk is a function of the concentration of contaminants in the environment and the duration of exposure to those contaminants. Health effects from TACs are often described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs (OEHHA 2015). While a 10-month construction schedule would represent 2% of a 30-year exposure period, there are residences located adjacent to the Project site's western boundary. According to meteorological data from the Monterey Peninsula Airport, wind direction typically blows from the west to the east, which would disperse pollutants away from the sensitive receptors (CARB 2022a). Additionally, the Project's PM_{10} emissions, which may be used as a surrogate for

DPM, would be minimal (OEHHA 2015). Therefore, the exposure of residents to DPM from Project construction would be less than significant.

Operational Health Risks

The California Air Resources Board's (CARB) Air Quality and Land Use Handbook notes that air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high-traffic roadways, and other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California (CARB 2005). CARB community health risk assessments and regulatory programs have produced important air quality information about certain types of facilities that should be considered when siting new residences, schools, day care centers, playgrounds, and medical facilities (i.e., sensitive land uses).

CARB's Air Quality and Land Use Handbook provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The CARB guidelines recommend siting distances both for the development of sensitive land uses in proximity to TAC sources and for the addition of new TAC sources in proximity to existing sensitive land uses. Water supply infrastructure is not considered to be a land use that generates substantial TAC emissions based on review of the air toxic sources listed in CARB's guidelines (CARB 2005).

The Project would include the use of a portable generator to provide a temporary power source for system operation, if needed in the event of a power outage, however the use of the generator would be minimal and subject to air permitting requirements, which would further minimize potential exposure. The Project would not result in substantial sources of TACs during operation, as the Project is anticipated to primarily include passenger vehicles associated with maintenance trips, and passenger vehicles are not a source of DPM emissions. Therefore, operational health risks would be less than significant.

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Title 40 of the Code of Federal Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (Hot-Spot Analysis), states that "CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site" (40 CFR 93.123). While Project construction would involve on-road vehicle trips from trucks and workers during construction, construction activities would last approximately 10 months and would not require a project-level construction hotspot analysis.

With no new employees and potentially a single passenger vehicle trip per day, the Project would generate negligible new traffic and would not exceed the 24,000-vehicle-per-hour screening criterion discussed above. Accordingly, Project-related traffic would not exceed CO standards and therefore, no further analysis was conducted for CO impacts. Therefore, the CO emissions impact of the Project would be less than significant.

Health Effects of Other Criteria Air Pollutants

As analyzed above, construction and operation of the Project would not result in emissions that would exceed any of the MBARD thresholds for criteria air pollutants (see Question 3.3b).

Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2023c). ROG and NO_x are precursors to O_3. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of ROG and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the NCCAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of reliable and meaningful quantitative methods to assess this impact. However, because the Project would not exceed MBARD thresholds for ROG or NO_x and the NCCAB is designated as in attainment with the NAAQS and CAAQS for O_3, implementation of the Project would not significantly contribute to regional O_3 concentrations or the associated health effects.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Health effects associated with NO_x and NO_2 include lung irritation and enhanced allergic responses (CARB 2023d). Because the Project would not generate NO_x emissions that would exceed the MBARD mass daily threshold and because the NCCAB is designated as in attainment of the NAAQS and CAAQS for NO_2 and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards, the Project would not contribute to exceedances of the NAAQS and CAAQS for NO_2 or result in significant health effects associated with NO_2 and NO_x.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2023a). CO tends to be a localized impact associated with congested intersections. Impacts associated with CO hotspots were identified above as less than significant. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease (CARB 2023b). Construction and operation of the Project would not exceed MBARD's PM_{10} thresholds and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or obstruct the NCCAB from coming into attainment for this pollutant. Regarding $PM_{2.5}$, the NCCAB is designated as in attainment with the NAAQS and CAAQS. Additionally, implementation of construction erosion and dust control BMPs would limit the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction and operation, the Project would not result in significant health effects associated with PM_{10} or $PM_{2.5}$.

Health effects associated with SO_2 include exacerbation of asthma, respiratory irritation such as wheezing, shortness of breath and chest tightness especially during exercise or physical activity (CARB 2023e). The Project's SO_2 emissions were minimal, thus the Project would not contribute to health effects associated with this pollutant.

Based on the preceding considerations, because construction and operation of the Project would not result in the emissions of criteria air pollutants that would exceed the applicable MBARD significance thresholds, and because the MBARD thresholds are based on levels that the NCCAB can accommodate without affecting the maintenance for the NAAQS and attainment for the CAAQS, and the NAAQS and CAAQS are established to protect public health and welfare, the Project would not result in health effects associated with criteria air pollutants. Therefore, the Project would have a less-than-significant impact related to exposure of sensitive receptors to substantial pollutant concentrations.

d) ***Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

Less-than-Significant Impact. Based on the preceding analyses, the Project is not anticipated to result in other emissions that have not been addressed under Questions 3.3a through 3.3c above. Accordingly, this analysis focuses on the potential for the Project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; the wind speed and direction; and the sensitivity of the receiving location. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

During Project construction, exhaust from equipment may produce discernible odors typical of most construction sites. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people.

Typical sources of operational odors include landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, and refineries. MBARD's CEQA Guidelines notes that odorous materials include sulfur compounds and methane. As a groundwater well facility, the Project would not be a land use associated with generating nuisance odors. Therefore, the Project would have a less-than-significant impact related to other emissions, such as those leading to odors.

3.4 Biological Resources

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting

The Project site is in an urban/commercial setting and consists primarily of paved surfaces and ruderal vegetation. The site is previously disturbed and contains mostly herbaceous weeds and non-native grasses characteristic of disturbed habitats. Large coast live oak trees are located adjacent to the northwestern border of the site. Redwood forest is present to the north and west. The site is otherwise surrounded by residential and commercial development. No natural vegetation communities are present within the Project site.

Dudek prepared a biological resources assessment for the Project (see Appendix B). Dudek conducted a search of the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) rare plant inventory, and federal Information, Planning, and Consultation (IpaC) System to determine whether special-status plants or wildlife species have been documented near the Project site. Dudek conducted a reconnaissance-level field survey of the biological study area (BSA) including the Project site and a 50-foot buffer on June 12, 2023. The focus of the survey was to identify existing biological resources, including vegetation and wildlife habitat values and habitat suitability for special-status plant and wildlife species, as well as to document the presence of aquatic resources or sensitive natural vegetation communities, if any. Dudek also conducted a search of Santa Cruz County's Geographic Information System (GIS) data to identify any mapped biological resources on or immediately adjacent to the site, such as Sandhills Habitat. The results of these assessments are discussed below.

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less-than-Significant Impact with Mitigation Incorporated. Based on the results of the database search and literature review, a total of 100 special-status species (59 plants and 41 animals) were identified as potentially occurring in the Project area. However, due to the existing developed and disturbed nature of the site and largely urbanized setting of the surrounding lands, the absence of suitable native communities and substrates that could support special-status plants, as well as the absence of mapped sensitive habitats such as Sandhills Habitat, the occurrence of special-status plant species on the site is highly unlikely. A total of 41 special-status wildlife species have potential to occur in the vicinity of the Project site. These species are not expected or have a low potential to occur on or in the vicinity of the Project site due to the absence of suitable habitat conditions, existing developed and disturbed conditions, and associated urban land uses.

No special-status plant or wildlife species were observed during the biological field surveys. Due to the absence of suitable habitat conditions and existing developed and disturbed conditions on the Project site and in the immediate vicinity of the Project site, no special-status plant or wildlife species are expected to occur.

While the Project site itself does not contain trees, trees near the Project site provide potential nesting habitat for bird species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). As such, nesting may be occurring near the site, or may occur in the future. Project construction could result in the loss or abandonment of active nests of birds protected under the MBTA and/or the CFGC, as a result of construction-related noise and disturbance. The loss of an active bird nest protected by the MBTA and/or CFGC would be considered a potentially significant impact. Implementation of MM BIO-1 would protect active bird nests that could occur in the disturbance area and reduce the potentially significant impact to a less-than-significant level.

MM BIO-1: Pre-Activity Surveys for Nesting Birds. Within 14 days prior to any ground-disturbing activities or vegetation clearing during the nesting season, a qualified biologist or biological monitor shall conduct a pre-activity nesting bird survey of all potential nesting habitat within the Project site, including a 100-foot buffer for passerine species and a 300-foot buffer for raptors. If there is a lapse between the survey time and initiation of work activities of 14 days or greater, the nesting bird survey shall be repeated. If active nests are found during the survey, work in that area shall stop and a qualified biologist or biological monitor shall determine an appropriate no-work buffer around the nest based on the activity and species and mark the buffer using flagging, pin flags, lathe stakes, or similar marking method. No work shall occur within the buffer until the young have fledged or the nest(s) are no longer active, as determined by the biologist or biological monitor.

Therefore, with incorporation of MM BIO-1, the Project would have a less-than-significant impact on special-status species.

b) ***Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

and

c) ***Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

No Impact. The Project site does not contain riparian habitats, other sensitive natural communities, or wetlands, and none of these habitats are located near the site based on the field survey and review of mapped biological resources available through the Santa Cruz County GIS data. No aquatic resources were identified within the BSA during the field survey. The nearest aquatic resource, Carbonera Creek, is a federally and state-protected aquatic resource under U.S. Army Corps of Engineers (USACE) (Clean Water Act), Regional Water Quality Control Board (RWQCB) (Porter-Cologne Water Quality Control Act), and California Department of Fish and Wildlife (CDFW) (California Fish and Game Code Section 1600) jurisdiction, but is across Scotts Valley Drive and outside the Project boundary. No natural communities considered sensitive by CDFW were identified within the Project site during the field survey and based on the County's mapped biological resources. The entire site is urban and developed. Redwood forest and coast live oak woodland border the BSA, however Project work is unlikely to impact these communities. Therefore, the Project would have no impact on riparian habitats, other sensitive natural communities, or federally or state-protected wetlands.

D) ***Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

No Impact. Wildlife corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, other natural obstacles, or manmade obstacles such as urbanization. As stated above, the Project site is developed, is surrounded by other development, and does not connect areas of natural open space. The Project site is not part of a wildlife movement corridor and would not impede the use of native wildlife nursery sites. Therefore, the Project would have no impact on wildlife movement or native wildlife nursery sites.

e) ***Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

No Impact. Section 17.44.080 of the Scotts Valley Municipal Code (Tree Preservation Ordinance) restricts the removal of various mature trees, including coast live oaks and Ponderosa pine trees, with trunk diameters of 8 inches or greater. The Project site does not contain trees or other protected biological resources and Project implementation would not require tree removal. Therefore, the Project would have no impact related to conflicts with local policies or ordinances protecting biological resources.

f) ***Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

No Impact. There are no adopted Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) applicable to the Project. Specifically, the Project site is located outside the Interim Programmatic HCP area, that does apply to some parcels near the site. Therefore, the Project would have no impact related to conflicts with the provisions of an adopted HCP or NCCP.

3.5 Cultural Resources

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Setting

The information in this section is based on an Archaeological Resources Assessment and Historical Resources Assessment prepared for the Project, which are provided in Appendices C and D, respectively. The Archaeological Resources Assessment included a records search of the California Historical Resources Information System (CHRIS) from the Northwest Information Center (NWIC) conducted for the Project site and a 0.25-mile radius, a search of the Native American Heritage Commission (NAHC) Sacred Lands File, outreach to locally affiliated Native American groups, and an intensive pedestrian survey of the Project site. Due to the age of the building on site (constructed in 1964), it was also evaluated for potential historical significance and integrity in the Historical Resources Assessment. The results of these assessments are discussed below.

A) ***Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?***

No Impact. The results of the CHRIS records search indicated that no previously recorded cultural resources are within the Project site. One recorded resource, Highway 17, is outside of the Project site within the 0.25-mile study area radius. As a result of the background research, field survey, and property significance evaluation, the building on the Project site appears not eligible for the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), and City of Scotts Valley Local Register of Historic Resources due to a lack of significant historical associations, architectural merit, and compromised integrity. Thus, no known historical resources are located on or adjacent to the Project site. Therefore, the Project would have no impact on historical resources.

The potential for unknown subsurface archaeological resources or tribal cultural resources also qualifying as historical resources is evaluated under Question 3.5b below.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less-than-Significant Impact with Mitigation Incorporated. According to the CHRIS records search, the Project area contains no previously recorded archaeological resources.[5] Similarly, the search of the NAHC Sacred Lands File and outreach to locally affiliated Native American contacts did not identify any known Native American resources in the Project area. Intensive pedestrian survey of the Project site by a qualified archaeologist did not encounter any archaeological resources. Based on the results of the assessment, the potential for encountering previously unknown potentially significant prehistoric or historical-period archaeological resources during Project construction is low. Nevertheless, in the event that ground-disturbing construction activities were to unearth previously unidentified archaeological resources, implementation of MM CUL-1 would reduce potentially significant impacts to a less-than-significant level.

MM CUL-1: Discovery of Unique Archaeological Resources, Historical Resources of Archaeological Nature, and Subsurface Tribal Cultural Resources. If archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all soil-disturbing work within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards can evaluate the significance of the find. The archaeologist will determine whether additional study is warranted. Should it be required, the archaeologist shall install temporary flagging around a resource to avoid any disturbances from construction equipment.

If the resource has potential to be a unique archaeological resource, a historical resource of an archaeological nature, or a subsurface tribal cultural resource, the qualified archaeologist, in consultation with the lead agency, shall prepare a research design and archaeological evaluation plan to assess whether the resource should be considered significant under CEQA criteria.

If the resource is determined significant, the lead agency shall provide for preservation in place. If preservation in place is not possible, the qualified archaeologist, in consultation with the lead agency, will prepare a data recovery plan for retrieving data relevant to the site's significance. The data recovery plan shall be implemented prior to, or during, site development (with a 100-foot buffer around the resource). The archaeologist shall also perform appropriate technical

5 Archaeological resources are objects or structures, often below ground, that relate to previous human use of an area. Archaeological resources are often distinguished by whether they are "prehistoric" or "historic." Archaeological resources can qualify as "unique archaeological resources" (Public Resources Code Section 21083.2[g]) or "historic resources" (Public Resources Code Section 5020.1[j]). Tribal cultural resources can sometimes also qualify as "unique archaeological resources" or "historical resources" (Public Resources Code Section 21074[c]).

analyses, prepare a full written report and file it with the Northwest Information Center, and provide for the permanent curation of recovered materials. The written report will provide new recommendations, which could include, but would not be limited to, archaeological and Native American monitoring for the remaining duration of Project construction.

Therefore, with incorporation of MM CUL-1, the Project would have a less-than-significant impact on archaeological resources.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less-than-Significant Impact with Mitigation Incorporated. As the Project site has been previously disturbed, it is unlikely that unmarked human burials exist on the site. Nevertheless, in the event that ground-disturbing construction activities were to unearth previously unidentified human remains, implementation of MM CUL-2 would reduce potentially significant impacts to a less-than-significant level.

MM CUL-2: Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, immediately notify the lead agency and the Santa Cruz County Coroner of the discovery. The coroner will decide the nature of the remains within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, can occur until a determination has been made. If the County Coroner determines that the remains are, or are believed to be, of Native American ancestry, the coroner will notify the Native American Heritage Commission within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the Native American Heritage Commission will appoint a Most Likely Descendant (MLD), who will be authorized to provide recommendation to the lead agency regarding the preferred treatment of the remains and any associated objects and/or materials.

Therefore, with incorporation of MM CUL-2, the Project would have a less-than-significant impact on human remains.

3.6 Energy

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VI. ENERGY – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Setting

Energy providers in the region include PG&E, which provides electrical and natural gas service to the region and Central Coast Community Energy (3CE), which provides electricity to the region. As described in Chapter 2, Project Description, the Project would not use natural gas; therefore, natural gas is not further discussed.

According to the U.S. Energy Information Administration (EIA), California used approximately 247,250 gigawatt hours of electricity in 2021 (EIA 2023c). Electricity usage in California for different land uses varies substantially by the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the residential sector is lower than any other state except Hawaii (EIA 2023a). In Santa Cruz County, PG&E reported an annual electrical consumption of approximately 1,162 million kilowatt-hours (kWh) in 2021, with 581 million kWh for non-residential use and 581 million kWh for residential use (CEC 2023).

According to the EIA, California used approximately 605 million barrels of petroleum in 2021, with the majority (over 511 million barrels) used for the transportation sector (EIA 2023b). This total annual consumption equates to approximately 25.4 billion gallons of petroleum, or a daily use of approximately 1.7 million barrels (69.6 gallons[6]) of petroleum. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation.

Potential impacts related to energy were analyzed based on energy consumption modeling for the Project in CalEEMod using the assumptions presented in Section 3.3, Air Quality. The results of the energy modeling are summarized in this section and included in Appendix A. Electricity demand is qualitatively addressed. Fuel consumption from equipment and vehicles was estimated by converting the total CO_2 emissions to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton (MT) CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per MT CO_2 per gallon (The Climate Registry 2022).

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact. Project implementation would result in the consumption of energy resources during construction and operation, including use of electricity and petroleum-based fuels. The anticipated use of energy resources is detailed as follows.

Construction

Project construction would entail the use of electricity for temporary construction lighting and use of electronic equipment such as electrically powered hand tools. The amount of electricity used during construction would be temporary and minimal. Therefore, Project construction would not result in wasteful, inefficient, or unnecessary consumption of electricity.

During Project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the Project site, vehicles used to deliver materials to the site, and construction worker travel to and from the Project site. Off-road equipment used during construction

6 One barrel contains 42 U.S. gallons.

of the Project would primarily rely on diesel fuel, as would vendor and haul trucks. In addition, construction workers would travel to and from the Project site in gasoline-powered vehicles throughout the duration of construction. Table 4 summarizes the Project's estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from construction worker vehicles.

Table 4. Estimated Petroleum Consumption during Project Construction

Year	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)
	(gallons)			
2024	12,004	476	370	415
2025	167	36	13	21
Total by Category	**12,170**	**512**	**384**	**436**
Total Petroleum Consumed for Project Construction				**13,503**

Notes: Numbers may not add due to rounding.
See Appendix A for complete results.

As shown in Table 4, Project construction is estimated to consume a total of approximately 13,503 gallons of petroleum. While construction activities would consume petroleum-based fuels, petroleum use during construction would be temporary in nature. Furthermore, the construction equipment used and associated petroleum consumed would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and offroad diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. Environmental Protection Agency (EPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Construction contractors would also not be expected to utilize fuel in a manner that is wasteful or unnecessary for purposes of cost efficiency. Therefore, petroleum use during Project construction would not be wasteful or inefficient.

Therefore, the Project would have a less-than-significant impact related to energy consumption during construction.

Operation

Operation of the Project would contribute to regional energy demand by consuming electricity and gasoline and diesel fuels. Electricity would be used for groundwater pumping, lighting, and water and wastewater conveyance. Gasoline and diesel consumption would be associated with vehicle trips to and from the site by SVWD staff for routine operations and maintenance activities and occasional use of the backup generator.

Based on information provided by the SVWD, Project operation would consume approximately 230,000 kilowatt-hours (kWh) of electricity per year during operation. Although electricity consumption would increase with the Project, the Project would be required to comply with CCR Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Buildings. These standards are intended to result in energy-efficient performance so that new buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. Thus, compliance with applicable standards would minimize energy consumption for lighting and other energy-using fixtures. Furthermore, the additional electricity demand for the Project would be comparable to other similar projects and would not be unusual or wasteful as compared to overall local and regional demand for energy resources. For these reasons, electricity consumption of the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

Operational fuel consumption would involve the use of motor vehicles traveling to and from the Project site for routine operation and maintenance, and occasional use of the backup generator. Table 5 summarizes the estimated annual petroleum consumption for Project operation.

Table 5. Estimated Petroleum Consumption during Project Operation

Source	Employee Vehicles (gasoline)	Emergency Generator (diesel)	Landscape Equipment (gasoline)	Total Petroleum
	(gallons)			
Project Operations	148	653	3	805

Notes: Numbers do not add due to rounding.
See Appendix A for complete results.

As shown in Table 5, the Project would result in an estimated annual increase in total petroleum demand of approximately 805 gallons of petroleum. Fuel would be provided by current and future commercial vendors. The Project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful vehicle energy consumption. Accordingly, the Project's operational petroleum consumption would not be considered inefficient, wasteful, or otherwise unnecessary. Therefore, the Project would have a less-than-significant impact related to energy consumption during operation.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. Part 6 of Title 24 of the California Code of Regulations establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically (every 3 years) to incorporate and consider new energy efficiency technologies and methodologies. Title 24 also includes Part 11, the California Green Building Standards Code (CALGreen). CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial and state-owned buildings. The components of the Project that include new structures would meet all applicable Title 24 and CALGreen standards to reduce energy demand and increase energy efficiency.

Additionally, as discussed in Section 3.8, Greenhouse Gas Emissions, the Project would not conflict with the various state and local plans that mandate reduced energy use. Therefore, the Project would have a less-than-significant impact related to conflicts with or obstruction of a state or local plan for renewable energy or energy efficiency.

3.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Setting

The City of Scotts Valley is typical of a mountain/alluvial environment. The alluvial valleys of Carbonera Creek and Camp Evers Creek form the historic and modern core of the urban area, which is bordered by mountains (City of Scotts Valley 1994a). The City, including the Project site, is located within the Coast Ranges Geomorphic Province, which is characterized by northwest trending mountains and valleys, subparallel to the San Andreas Fault. The coastline is uplifted and strata dips underneath the Great Valley Geomorphic Province to the east (CGS 2002). The City, including the Project site, is located in a seismically active region of California with several active or potentially active faults. Earthquake faults in the area include the Zayante Fault (3 miles north), Ben Lomond Fault (3 miles west), Butano Fault (6 miles north), San Andreas Fault (7 miles north), and San Gregorio Fault (14 miles west).

Based on information obtained from the United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey online database (NRCS 2023), the Project site is mapped as Soquel loam, 2% to 9% slopes. This soil map unit consists of very deep, moderately well-drained soils on alluvial plains, with a moderately high capacity to transmit water (NRCS 2023; USDA 1980). These soils formed in alluvium derived from sedimentary rock (USDA 1980). The typical soil profile generally consists of a loam layer extending from the surface to a depth of approximately 21 inches, silt loam from a depth of approximately 21 to 37 inches, silty clay loam from a depth of approximately 37 to 51 inches, and loam from a depth of 51 to 62 inches (NRCS 2023).

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act of 1972 regulates development near Holocene-active faults (i.e., faults that have moved in the past 11,700 years) to mitigate the hazard of surface fault rupture. This Act requires the State Geologist to delineate regulatory zones (known as Alquist-Priolo Earthquake Fault Zones) around the surface traces of Holocene-active faults and to issue appropriate maps. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone. The Alquist-Priolo Earthquake Fault Zone located closest to the Project site is associated with the San Andreas Fault, located approximately 7 miles to the north (CGS 2021). Therefore, the Project would have no impact related to rupture of a known earthquake fault.

ii) Strong seismic ground shaking?

and

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. As indicated above, the Project site is located in a seismically active region of California with several active or potentially active faults. Thus, the Project site is susceptible to strong ground shaking from severe earthquakes, and the Project could expose SVWD employees and Project structures and infrastructure to strong seismic ground shaking and associated seismic hazards.

Ground shaking may cause liquefaction of recent alluvial and terrace deposits. Liquefaction occurs when non-cohesive surface or subsurface materials are saturated and become liquid-like under the influence of ground shaking. This may result in ground failure. The alluvial deposits of the City have a moderately low potential for liquefaction except for younger alluvium found predominately along creeks and other watercourses; these have a moderate potential for liquefaction. According to mapping done for the 1994 General Plan, the Project site is located in a zone with low liquefaction potential (City of Scotts Valley 1994c).

While the Project site is located in a region with inherent seismic hazards, the Project would not exacerbate the risk of seismic ground shaking or seismic-related ground failure, which already exist in the Project area. Design and construction of the Project would conform to the recommendations of a site-specific geotechnical investigation to address seismic hazards in accordance with current seismic design standards of the California Building Code (CBC) and California Division of Occupational Safety and Health (Cal/OSHA) regulations, thereby minimizing the potential for damage and safety impacts. In the event that a large seismic event were to result in damage to the facility during operation, the SVWD would temporarily shut off the facility and conduct emergency repairs as soon as feasible. Adherence to the recommendations of the geotechnical investigation, and conformance with applicable CBC standards and Cal/OSHA regulations would serve to minimize potential adverse effects related to ground shaking and secondary seismic hazards. Therefore, the Project would have a less-than-significant impact related to strong seismic ground shaking and seismic-related ground failure, including liquefaction.

iv) Landslides?

Less-than-Significant Impact. Landslides occur when masses of rock, earth material, or debris flows move down a slope due to gravity. Ground shaking can trigger landslides, particularly on slopes of 15% or greater (City of Scotts Valley 1994c). The Scotts Valley General Plan includes geologic hazard maps for slopes and landslide deposits. The topography of the Project site is relatively flat, though the area behind the Project site on Grace Way is mapped as 25% to 40% slopes in the General Plan (City of Scotts Valley 1994). Mapping of landslide deposits indicates that no areas of known or suspected landslides are located near the Project site (City of Scotts Valley 1994c). As previously discussed, the Project would be constructed in accordance with the seismic design standards and regulations of the CBC and Cal/OSHA. Therefore, the Project would have a less-than-significant impact related to landslides.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact with Mitigation Incorporated. As described above, soils underlying the Project site consist of Soquel loam, 2% to 9% slopes, which is a very deep, moderately well-drained soil on alluvial plains. Well-drained soils reduce erosion rates by enhancing stormwater infiltration into on-site soils. According to the Santa Cruz County soil survey (USDA 1980), the hazard of erosion for Soquel loam, 2% to 9% slopes is slight to moderate.

Project construction would involve ground disturbance, which would potentially result in short-term soil erosion. Because the Project footprint is less than 1 acre, it would not be subject to the NPDES Construction General Permit requirements for construction site stormwater discharges. As a result, impacts related to soil erosion would be potentially significant. As discussed in Section 3.10, Hydrology and Water Quality, MM HYD-1 would reduce potential impacts associated with construction-related soil erosion by requiring implementation of stormwater pollution prevention BMPs. Therefore, with incorporation of MM HYD-1, the Project would have a less-than-significant impact related to soil erosion and loss of topsoil.

c) ***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?***

Less-than-Significant Impact. Moderately to well-consolidated, Miocene-age marine sedimentary rocks, including sandstone, shale, siltstone, conglomerate, and breccia, underlie the Project site (CGS 2015). Soils at the Project site consist of Soquel loam, 2% to 9% slopes (NRCS 2023). As previously discussed, geologic hazard maps in the General Plan indicate that the Project site has a low liquefaction potential, does not contain steep slopes, and is not located in area of known or suspected landslides (City of Scotts Valley 1994). Lateral spreading, which is commonly associated with liquefaction and occurs when a continuous layer of soil liquefies at depth and the soil layers above move toward an unsupported face, would also not be expected to occur due to the site's relatively flat topography and low liquefaction potential.

Subsidence and collapse involve a gradual or sudden vertical downward movement of a geological surface due to subsurface movement of earth materials to a point where the rock structure cannot bear its own load (collapse) or causing relatively slow sinking (subsidence). The main cause of subsidence in California is groundwater pumping. The effects of subsidence include damage to buildings and infrastructure, increased flood risk in low-lying areas, and lasting damage to groundwater aquifers and aquatic ecosystems. Based on a review of a USGS subsidence map, the Project site is not in an area of subsidence (USGS 2023). There is no known evidence of land subsidence in the Santa Margarita Groundwater Basin (SMGWA 2021).

The only potential cause of subsidence in the Basin is aquifer-compaction caused by lowered groundwater levels from groundwater pumping, as described in the Santa Margarita GSP. While the Project is not located in an area of subsidence, the Project would result in additional drawdown of the Santa Margarita Groundwater Basin caused by groundwater pumping from the new well. The Monterey Formation and Lompico aquifer have experienced up to 200 feet in groundwater decline in the Scotts Valley area but no known subsidence impacts have been observed in the Basin. Pumping-induced subsidence is generally restricted to unconsolidated deposits of clay and fine silt, in which extraction of pore water results in the grains of sediment no longer being subjected to the buoyant support of fluid-saturated pore space. The collapse is inelastic in that, even if pumping were to cease, the deposit has less pore space to hold water and reduced conductivity. In contrast, the Basin's three principal aquifers are sandstones that are, to varying degrees, consolidated and cemented. When groundwater is extracted from the pores, the pores do not collapse (as they would in unconsolidated deposits or clay-rich rocks) because the framework of sand and silt grains remains due to grain-on-grain contact and due to lithologic cement that holds the grains in place. Subsidence caused by groundwater pumping in the Basin is not expected due to the lack of land subsidence related to historical declines in groundwater levels combined with the consolidated nature of Basin sediments (SMGWA 2021).

Therefore, the Project would have a less-than-significant impact related to unstable geologic units or soils.

d) ***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?***

Less-than-Significant Impact. Expansive soils can undergo significant volume change with changes in moisture content; they shrink and harden when dried and expand and soften when wetted. Expansive soils are generally clay-rich deposits. The primary soil types mapped by the NRCS as expansive are Watsonville loam, Clear Lake clay, Diablo clay, Fagan loam, Los Osos loam, Mocho silt loam, Pinto loam, Felton sandy loam, Cropley silty clay, Danville loam, and Lompico Varient loam. The Project site, which is underlain by Soquel loam, is not mapped as an area containing expansive soils (County of Santa Cruz 2021). Nevertheless, construction would be completed in accordance with CBC regulations, which include provisions for construction on expansive soils. These construction techniques include over-excavation of soils beneath structures and pipelines, followed by construction on a layer of sandy, nonexpansive soils. Alternatively, post-tensioned slabs can be constructed to prevent cracking associated with expansive soils. In addition, construction and operation of the Project would not exacerbate the potential for soil expansion to occur. Therefore, the Project would have a less-than-significant impact related to expansive soil.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project would be connected to the local sanitary sewer system and would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, the Project would have no impact related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact with Mitigation Incorporated. Paleontological resources are the remains or traces of plants and animals that are preserved in earth's crust, and per the Society of Vertebrate Paleontology (SVP) (2010) guidelines, are older than written history or older than approximately 5,000 years. They are limited, nonrenewable resources of scientific and educational value, which are afforded protection under state laws and regulations.

According to surficial geological mapping by Brabb (1997) at a 1:62,500 scale and the geological time scale of Cohen et al. (2021), the Project site is underlain by Holocene (<11,700 years ago) undifferentiated alluvial deposits (mapped as Qal); however, sediments from the Late Miocene and Pliocene (11.63 million years ago [mya] to 2.58 mya) Purisima Formation (mapped as Tp and Tps), and the late Miocene (11.63 mya to 5.3 mya) Santa Cruz Mudstone (mapped as Tsc) are mapped very near to the Project site and likely underlie the Project site at depth.

Dudek requested a paleontological records search from the Natural History Museum of Los Angeles County (NHMLA) on June 5, 2023, and the results were received on June 11, 2023 (NHMLA 2023). The NHMLA reported no fossil localities from within the Project site; however, they reported 12 localities nearby from similar sediments that likely underlie the Project site at depth. Most of these localities, between 5 and 7.5 miles southwest of the Project location, have been assigned to the Purisima formation. Fossils from these localities include mammals (seals, walrus, dolphin), fish (flounder, perch, smelt, rockfish, shark), invertebrates (brachiopods, snails, clams, crabs) (NHMLA 2023).

Although no paleontological resources were identified within the Project site as a result of the institutional records search or desktop geological and paleontological review, there are several previous fossil localities located within the same or similar sediments that likely underlie the Project site (NHMLA 2023). In addition, the Project site is not anticipated to be underlain by unique geologic features. The Project site is underlain by undifferentiated alluvial deposits that range in paleontological sensitivity from low (Holocene) on the surface to high (Pleistocene) with depth. These alluvial deposits are likely underlain, at depth, by older Miocene and Pliocene sediments that are high paleontological sensitivity. The deeper alluvial sediments and anything below those require paleontological monitoring by a paleontologist meeting SVP (2010) standards. If intact paleontological resources are located on site, ground-disturbing activities associated with construction of the Project, such as large diameter (two feet or greater) drilling, grading during site preparation, and trenching for utilities, would have the potential to destroy a unique paleontological resource or site. As such, the Project site is considered to be potentially sensitive for paleontological resources, and without mitigation, the potential damage to paleontological resources during construction associated with the Project is considered a potentially significant impact. Given the proximity of past fossil discoveries in the surrounding area within the same or similar sediments as those found within the Project site at depth, the Project site is highly sensitive for supporting paleontological resources below the depth of fill and weathered, alluvial deposits. However, upon implementation of MM GEO-1, impacts would be reduced to below a level of significance.

MM GEO-1: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring. Prior to commencement of any grading activity on site, the Scotts Valley Water District shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project that shall be consistent with the SVP (2010) guidelines and include the following: preconstruction meeting attendance and worker environmental awareness training; locations where paleontological monitoring is required within the Project site based on construction plans and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. Costs for laboratory and museum curation fees (if fossils are recovered) shall be the responsibility of the Scotts Valley Water District. A qualified paleontological monitor shall be on site during initial rough grading and other significant ground-disturbing activities, including large diameter (two feet or greater) drilling below a depth of five feet below the ground surface. No paleontological monitoring is necessary during ground disturbance within artificial fill, determined to be present. In the event that paleontological resources (e.g., fossils) are unearthed during grading or drilling, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.

Therefore, with incorporation of MM GEO-1, the Project would have a less-than-significant impact on paleontological resources.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Setting

Climate change refers to any significant change in measures of climate (e.g., temperature, precipitation, or wind patterns) lasting for an extended period of time (i.e., decades or longer). Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. The "greenhouse effect" is the trapping and buildup of heat in the atmosphere near Earth's surface (the troposphere). The greenhouse effect is a natural process that contributes to regulating Earth's temperature, and it creates a livable environment on Earth. The greenhouse effect traps heat in the troposphere through a threefold process: (1) short-wave radiation emitted by the Sun is absorbed by the Earth; (2) the Earth emits a portion of this energy in the form of long-wave radiation; and (3) GHGs in the upper atmosphere absorb this long-wave radiation and emit this long-wave radiation into space and back toward the Earth. This trapping of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. GHG emissions occur both naturally and as a result of human activities. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing Earth's surface temperature to rise. Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g) for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also 14 CCR 15364.5).[7] The three GHGs evaluated herein are CO_2, CH_4, and N_2O. Emissions of HFCs, PFCs, SF_6, and NF_3 are generally associated with industrial activities including the manufacturing of electrical components, heavy-duty air conditioning units, and insulation of electrical transmission equipment (substations, power lines, and switch gears.).

7 Climate-forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in California Health and Safety Code Section 38505; impacts associated with other climate-forcing substances are not evaluated herein.

Therefore, emissions of these GHGs were not evaluated or estimated in this analysis because the Project would not include these activities or components and would not generate HFCs, PFCs, SF_6, and NF_3 in measurable quantities.

The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). Consistent with CalEEMod version 2022.1, this GHG emissions analysis assumed the GWP for CH_4 is 25 (i.e., emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC's Fourth Assessment Report (IPCC 2007).

The Project site is located within the NCCAB under the jurisdiction of the MBARD, which, to date, has not adopted significance criteria or thresholds for land use projects. The MBARD-adopted significance threshold of 10,000 MT of CO_2e for stationary source projects (MBARD 2016), does not directly apply to the Project, as the majority of emissions are generated by non-stationary sources of GHGs (such as off-road construction equipment and on-road vehicles). In the absence of an adopted numeric threshold by the MBARD and the SVWD, CEQA allows lead agencies to identify thresholds of significance applicable to a project that are supported by substantial evidence. Substantial evidence is defined in the CEQA statute to mean "facts, reasonable assumptions predicated on facts, and expert opinion supported by facts" (14 CCR 15384[b]).[8] Substantial evidence can be in the form of technical studies, agency staff reports or opinions, expert opinions supported by facts, and prior CEQA assessments and planning documents.

As such, the Project was evaluated according to CEQA Guidelines Section 15064.7(c) by considering whether GHG emissions of the Project meet the 900-MT-CO_2e-per-year screening level threshold identified by the California Air Pollution Control Officers Association (CAPCOA) (CAPCOA 2008). The 900-MT-CO_2e-per-year threshold was developed based on various land use densities and future discretionary project types to determine the size of projects that would likely have a less than cumulatively considerable contribution to climate change. The CAPCOA threshold was developed to ensure capture of 90% or more of likely future discretionary developments with the objective to set the emissions threshold low enough to capture a substantial fraction of future development while setting the emission threshold high enough to exclude small development projects that would contribute a relatively small fraction of cumulative statewide GHG emissions. CAPCOA's 900-MT-CO_2e-per-year threshold was developed to meet the target identified by AB 32 of reducing emissions to 1990 levels by year 2020. After CAPCOA identified the 900-MT-CO_2e-per-year threshold, SB 32 and AB 1279 were passed, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. Though the CAPCOA threshold does not explicitly consider the reduction targets set by SB 32 or AB 1279, the CAPCOA threshold was developed with an aggressive project-level GHG emission capture rate of 90%. Projects that generate emissions beyond the 900-MT-CO_2e-per-year screening level threshold are required to implement feasible mitigation measures to reduce their impacts on climate change. Projects that meet or fall below CAPCOA's screening level threshold of 900 MT CO_2e per year of GHG emissions require no further analysis and are not required to implement mitigation measures to reduce GHG emissions. As such, the CAPCOA threshold of 900 MT CO_2e per year is used as a quantitative threshold for the analysis of impacts related to GHG emissions generated by the Project.

8 14 CCR 15384 provides the following discussion: "Substantial evidence" as used in the Guidelines is the same as the standard of review used by courts in reviewing agency decisions. Some cases suggest that a higher standard, the so called "fair argument standard" applies when a court is reviewing an agency's decision whether or not to prepare an EIR. Public Resources Code section 21082.2 was amended in 1993 (Chapter 1131) to provide that substantial evidence shall include "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts." The statute further provides that "argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence."

Analytical Methods

Project GHG emissions were estimated using the CalEEMod modeling described above in Section 3.3, Air Quality, and further discussed below. All results are included in Appendix A.

Construction

Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The analysis of GHG emissions used the same methodology and modeling inputs assumptions as the analysis of air quality impacts in Section 3.3, Air Quality. All details for construction criteria air pollutants discussed in Section 3.3, Analytical Methods, are also applicable for the estimation of construction related GHG emissions. See Section 3.3 for a discussion of construction emissions calculation methodology and modeling inputs assumptions used in the GHG emissions analysis.

Operation

All details for criteria air pollutants discussed in Section 3.3 are also applicable for the estimation of operational mobile source and stationary source GHG emissions. In addition, Project GHG emissions would be associated with water usage, waste, and refrigerants (cooling). Extraction, conveyance, and distribution of water for the Project would require the use of electricity, which would result in associated indirect GHG emissions. The electricity associated with pumping has been accounted for under energy use, but the minimal outdoor landscaping water needs have been accounted for under this category. The Project would also generate minimal waste during operations. CalEEMod default waste generation for a light industrial land use was assumed. The building may also have some equipment for air conditioning and refrigeration, which could be needed for some equipment. Most of the refrigerants used today are hydrofluorocarbons or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. CalEEMod default values for a light industrial land use were applied, which quantify refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate (CAPCOA 2022). Regarding long-term operations, the Project is conservatively assumed to include one daily trip per day (two one-way trips per weekday). The pump station would consume a total of 230,000 kWh of electricity per year and 50 gallons of water per week, as provided by the SVWD.

a) ***Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

Less-than-Significant Impact. The Project would result in the generation of short-term construction emissions and long-term operational emissions.

Construction

Construction of the Project would result in temporary GHG emissions primarily associated with use of off-road construction equipment, on-road trucks, and vehicles transporting construction workers to and from the Project site. Construction emissions associated with the Proposed Project are depicted in Table 6.

Table 6. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	(metric tons per year)			
2024	135	<0.01	<0.01	136
2025	2	<.01	<.01	2
Total for All Years of Construction	**137**	**0**	**0**	**138**
			Amortized Over 30 Years	*5*

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Numbers may not add due to rounding.
See Appendix A for complete results.

Since construction emissions are short-term, the total emissions were amortized over 30-years to represent a long-term annual emission rate and summed with the operational emissions for comparison to the applied significance threshold, below. As shown in Table 6, Project construction would result in the generation of an estimated 5 MT CO_2e per year amortized over a 30-year period.

Operation

Following the completion of construction activities, the Project would generate GHG emissions from mobile sources (vehicle trips), area sources (landscaping equipment), energy sources (electricity consumption), water use, waste, and stationary sources (backup generator). The estimated annual operational Project GHG emissions from these sources are shown in Table 7.

Table 7. Estimated Annual Operational Greenhouse Gas Emissions

Emissions Source	CO_2	CH_4	N_2O	R	CO_2e
	(metric tons per year)				
Mobile	1	0	0	<0.01	1
Area	<1	0	0	0	0
Energy	21	<0.01	0<0.01	0	21
Water	<0.01	0	0	0	<0.01
Waste	<1	<1	<1	0	<1
Refrigerants	0	0	0	<1	<1
Stationary - Emergency Generator	7	<0.01	<0.01	0	7
Total	**29**	**0**	**0**	**0**	**30**
				Amortized Construction Emissions	*5*
				Total with Amortized Construction Emissions	**35**
				Threshold	**900**
				Exceed Threshold?	**No**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R=refrigerants; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas.
Totals may not sum due to rounding.
See Appendix A for complete results.

The primary source of operational GHG emissions would be from energy associated with operating the groundwater extraction well. As shown in Table 7, the GHG emissions from operation of the Project would total approximately 30 MT CO_2e per year. Combined amortized construction GHG emissions and annual operational GHG emissions would result in a total of approximately 35 MT CO_2e per year. As such, annual operational GHG emissions with amortized construction GHG emissions would not exceed the applied significance threshold of 900 MT CO_2e per year. Therefore, the Project would have a less-than-significant impact related to GHG emissions.

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact. Neither the City of Scotts Valley nor the SVWD have adopted a Climate Action Plan for the purpose of reducing GHG emissions. Although there are no mandatory GHG plans, policies, or regulations, or finalized agency guidelines that would apply to the Project, a description of relevant plans with GHG reduction strategies is provided below.

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the federally designated Metropolitan Planning Organization (MPO) for the region, which includes Monterey, San Benito, and Santa Cruz counties. In June 2022, AMBAG adopted the Monterey Bay 2045 Moving Forward – 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). AMBAG's 2045 MTP/SCS is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks within the Monterey Bay Area. The 2045 MTP/SCS incorporates local land use projections and circulation networks from city and county general plans. The implementation of the 2045 MTP/SCS is anticipated to achieve a 4%-per-capita reduction and nearly 7%-per-capita reduction in GHG emissions from passenger vehicles by 2020 and 2035, respectively (AMBAG 2022). The 2045 MTP/SCS outlines the region's proposed transportation network, emphasizing multimodal system enhancements, system preservation, and improved access to high quality transit, as well as land use development that complements this transportation network (AMBAG 2022). In addition, AMBAG is working with the Santa Barbara County Association of Governments and the San Luis Obispo Council of Governments to develop the Central Coast Zero Electric Vehicle Strategy (CCZEVS), which will identify gaps and opportunities to implement zero-emission vehicle infrastructure on the Central Coast, including on or near the State Highway System, major freight corridors, and transit hubs (AMBAG 2022). These transportation strategies would reduce vehicle miles traveled (VMT) and associated petroleum fuels.

Typically, a project would be consistent with the MTP/SCS if the project does not exceed the underlying growth parameters within the MTP/SCS. Since the Project would not result in increased long-term employment or population growth, the Project would not contribute to an exceedance of AMBAG growth projections for the region and the would not conflict with the 2045 MTP/SCS.

Potential to Conflict with State Reduction Targets and CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 [Assembly Bill (AB) 32] to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the State has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the Project, the relevant GHG emissions reduction targets include those established by SB 32 and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state achieve net-zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter. AB 1279 relies on future carbon capture to capture and store 100 million MT CO_2e by 2045.

As defined by AB 32, CARB is required to develop The Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. The Scoping Plan is required to be updated every five years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. While the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations,[9] it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

CARB's 2017 Climate Change Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan for Achieving Carbon Neutrality update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress toward the 2030 SB 32 target (CARB 2022b). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets, are the most applicable to the Project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022). Many of the measures and programs included in the Scoping Plan would result in the reduction of Project-related GHG emissions with no action required at the project-level. The Project would support the 2017 and 2022 Scoping Plan Update's goals by not including natural gas (i.e., all-electric facility).

The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. However, the 2022 Scoping Plan emphasizes that reliance on carbon sequestration in the state's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will

9 The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

require development of technologies and programs that are not currently known or available, the Project's role in supporting the statewide goal would be speculative and cannot be wholly identified at this time.

Overall, the Project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. Several Scoping Plan measures would result in reductions of Project-related GHG emissions with no action required at the project level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production by the utility. As demonstrated above, the Project would not conflict with CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG-reduction and carbon-neutrality goals.

Based on the above considerations, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the Project would have a less-than-significant impact related to conflicts with applicable GHG reduction plans.

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Setting

Hazardous Materials

As defined in California Health and Safety Code Section 25501, "hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant hazard to human health and safety, or to the environment, if released into the workplace or the environment. Hazardous materials include certain products which are corrosive, ignitable, toxic, radioactive, flammable, or explosive and reactive. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or is being stored prior to proper disposal. California Code of Regulations, Title 22, Section 66261.10 defines "hazardous waste" as a waste that may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed or otherwise managed.

The California Environmental Protection Agency (CalEPA) certifies local government agencies as Certified Unified Program Agencies (CUPAs) to implement hazardous waste and materials standards. The Santa Cruz County Environmental Health Division is designated as the local CUPA in Santa Cruz County, including all four cities. As the CUPA, the Santa Cruz County Environmental Health Division is responsible for enforcing state statutes and regulations as well as the local ordinances (Santa Cruz County Code Chapter 7.100) pertaining to the storage, use, and disposal of hazardous materials and hazardous waste. All businesses or persons that store hazardous materials must have a permit issued by the Santa Cruz County Environmental Health Division.

Hazardous Building Materials

Hazardous building materials may be present in various components of older buildings, such as construction materials, finishes, insulation, and adhesives, and could pose risks to human health during demolition if not properly managed. These include asbestos-containing materials (ACMs), lead-based paint (LBP), and polychlorinated biphenyls (PCBs). Asbestos was commonly used in acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes, until many, but not all, ACMs were banned in construction products in 1989. Asbestos poses a health risk when it becomes friable, such as through disturbance or damage, and is inhaled. LBP was commonly used in buildings constructed before its ban in 1978. Lead is a toxic metal that can be harmful, especially to children, if ingested or inhaled. Polychlorinated biphenyls (PCBs) were used in various building materials, such as caulking, sealants, and electrical equipment, until their ban in 1979. PCBs are persistent organic pollutants that can have adverse health effects, including impacts on the immune, reproductive, and nervous systems. As the building on the Project site was constructed in 1964, prior to the ban of these materials, it was inspected and tested for ACMs and LBPs, which confirmed the presence of these materials (All Bay Environmental 2023a, 2023b).

Hazardous Materials Release Sites

Government Code Section 65962.5 requires CalEPA to compile a list of hazardous waste and substances sites (also known as the Cortese List). The Cortese List provides information about the locations of known hazardous materials release sites. The following databases provide information regarding sites that meet the Cortese List requirements:

- List of hazardous waste and substance sites from the Department of Toxic Substances Control (DTSC) EnviroStor database.
- List of leaking underground storage tank (LUST) sites from the SWRCB GeoTracker database.
- List of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
- List of active cease and desist orders and cleanup and abatement orders from the SWRCB.
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the California Health and Safety Code, identified by DTSC.

Based on a search of these databases (CalEPA 2023a, 2023b, 2023c; DTSC 2023a, 2023b; SWRCB 2023), the Project site is not located on the Cortese List. Four case-closed LUST sites, three evaluation sites, and one tiered permit site are located within 0.25 miles of the Project site, discussed further below.

Emergency Response and Evacuation

The City of Scotts Valley Emergency Operations Plan (City of Scotts Valley 2015) provides a framework for coordination of response and recovery efforts within the City in coordination with local, state, and federal agencies in the event of major emergencies associated with natural disasters, human-caused emergencies, and technological incidents, such as earthquakes, flooding, wildland fires, and hazardous materials releases. The City's primary Emergency Operations Center (EOC), which functions as a communications and coordination center in the event of a disaster or large-scale emergency, is located at City Hall at 1 Civic Center Drive, approximately 0.6 miles southwest of the Project site. Evacuation routes are determined on a case-by-case basis by EOC personnel. The General Plan Safety Element, Figure S-6, displays the City's evacuation routes, as well as places of assembly in the event of emergencies (City of Scotts Valley 1994c). Evacuation routes and places of assembly were identified due to their ability to accommodate significant numbers of people, their relative location to freeways and arterials, and their geographic location. The evacuation routes consist of freeways, including Highway 17; arterials, including Mount Hermon Road and Scotts Valley Drive; and collectors, including Lockewood Lane, Whispering Pines Drive, Glen Canyon Road, Bean Creek Road, Granite Creek Road, and Glenwood Drive. Six places of assembly are identified in the City, including City Hall, Scotts Valley Middle School, Baymonte Christian School, Hope Valley Church, Vine Hill Elementary School, and Baymonte Early Childhood Learning Center.

a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

and

b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less-than-Significant Impact. Implementation of the Project would entail the routine transport, use, and disposal of hazardous materials. Construction activities would involve the use of commonly used hazardous substances such as gasoline, diesel fuel, lubricating oil, adhesive materials, grease, solvents, and architectural coatings. Project operations would also include small amounts of commonly used hazardous substances such as lubricating oil, grease, and solvents.

Strict federal and state regulations are in place for the transport of hazardous materials and wastes, and state and local regulations for the storage and handling of hazardous materials. Routine transport of hazardous materials to and from the Project site could result in an incremental increase in the potential for accidents; however, the Project would be required to comply with the California Department of Transportation and the California Highway Patrol regulations for the transportation of hazardous materials and wastes, including container types and packaging requirements, as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. Santa Cruz County Code Chapter 7.100 regulates the use, handling, and storage of hazardous materials and requires Hazardous Materials Business Plans (HMBPs) for quantities of hazardous materials that are less than the state thresholds.

As indicated above, the existing building on the Project site contains ACMs and LBP (All Bay Environmental 2023a, 2023b), and may contain PCBs. Demolition of the existing building on site would be subject to regulations to protect workers and limit exposure to hazardous building materials. The federal Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP), set forth in 40 CFR Part 61, Subpart M, are intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. The Project would also be required to comply with MBARD Rule 424, which adopts the federal Asbestos NESHAP by reference and provides clarification on notification procedures and asbestos surveys. Compliance with MBARD Rule 424 requires surveys to be conducted prior to demolition activities that would disturb materials that might contain asbestos, and if present, implementation of asbestos containment procedures. The federal Occupational Safety and Health Administration (OSHA) has also established regulations to protect workers from exposure to asbestos (29 CFR 1910.1001) and lead (29 CFR 1910.1025). The Cal/OSHA also enforces standards for asbestos (8 CCR Section 1529) and lead (8 CCR Section 1532.1) in construction to protect workers, which include the federal OSHA's asbestos and lead regulations with additional requirements specific to California. Requirements include testing, monitoring, containment, and disposal of asbestos and lead-based materials such that exposure levels do not exceed Cal/OSHA standards. While OSHA and Cal/OSHA do not have specific regulations focused on PCBs, Cal/OSHA's Hazard Communication Standard (8 CCR Section 5194) would apply, which requires employers to provide information about the hazardous chemicals present in the workplace and associated hazards to employees. Adherence to the applicable regulations described above would ensure that the Project would minimize impacts related to removal of hazardous building materials during demolition.

All hazardous materials would be managed in accordance with applicable federal, state, and local laws and regulations, which are intended to minimize health risk to the public associated with hazardous materials. Therefore, the Project would have a less-than-significant impact related to the creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. No existing or proposed schools are located within 0.25 miles of the Project site. Therefore, the Project would have no impact related to hazardous emissions or handling of hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less-than-Significant Impact. As indicated above, a search of the Cortese List databases did not reveal any records of the Project site pertaining to LUSTs, toxic releases, or site cleanup requirements. As the Project site is not included on the Cortese List, there are no known on-site hazards related to the release of hazardous materials from contaminated soil or groundwater.

Four case-closed LUST sites, three evaluation sites, and one tiered permit site are located within 0.25 miles of the Project site. The closest of these is a LUST site located approximately 100 feet from the site across the street at 5276 Scotts Valley Drive, the site of a former gasoline service station. The release was discovered when five underground tanks were removed from the site in April 1988 and soil underlying the tanks was found to be degraded with gasoline. In January 1997, the responsible party collected soil and groundwater samples from four temporary borings. The lateral extent of degradation was not defined, but the maximum concentration of benzene found was 1.7 parts per billion (ppb), slightly exceeding the water quality objective of 1 ppb. The Central Coast RWQCB determined that a plume with concentrations of such low magnitude and of such limited extent would not have significant migration (Central Coast RWQCB 1998a). The site investigation and/or remediation was completed; the site received closure from the Central Coast RWQCB in November 1998 and no further action related to the LUST was required (Central Coast RWQCB 1998b). The site has since been redeveloped with a commercial building and paved parking lot. Given the determinations by the Central Coast RWQCB, impacts to the Project site from the past hazardous materials release at 5276 Scotts Valley Drive are unlikely. Therefore, the Project would have a less-than-significant impact related to creation of a significant hazard to the public or the environment as a result of known hazardous materials release sites compiled pursuant to Government Code Section 65962.5.

e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

No Impact. The Project site is not located within two miles of a public use airport nor is it located within an airport land use plan. Therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the Project area due to airports.

f) ***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

Less-than-Significant Impact. As indicated above, the City of Scotts Valley General Plan identifies Scotts Valley Drive, where the Project site is located, as one of the City's evacuation routes in the event of emergencies requiring evacuations. The nearest identified points of assembly to the Project site are Baymonte Christian School and Hope Valley Church, approximately 0.5 miles northeast, and City Hall, approximately 0.6 miles southwest (City of Scotts Valley 1994c). As further discussed in Section 3.17, Transportation, the Project would not include changes to the existing street system that could hinder the movement of residents or emergency vehicles through the area in the event of emergencies. Construction and on-site staging areas would not obstruct Project site egress or ingress, which is from a single existing driveway on Scotts Valley Drive. Construction of utility connections would require partial road closures or access limitations in the public right-of-way of Scotts Valley Drive on a temporary and periodic basis during the construction period. An encroachment permit from the City would be required for work done within the public right-of-way, which would include provisions for addressing lane closures or traffic diversions in accordance with the City of Scotts Valley Standard Details and Specification (City of Scotts Valley 2017). Implementation of these requirements would ensure that access would be maintained for residents and emergency vehicles to continue to move through the area in the event of emergencies during construction. During operation, the Project would have limited operational traffic and vehicle trips associated with routine maintenance of the facility which would not affect access for emergency response or evacuation. Therefore, the Project would have a less-than-significant impact related to impaired implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan.

g) ***Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?***

No Impact. As further discussed in Section 3.20, Wildfire, the Project site is not located in a state responsibility area (SRA) or designated as a very high fire hazard severity zone (FHSZ) (CAL FIRE 2007a). The City is currently in the process of updating its General Plan; the final draft of the General Plan Update identifies fire hazard areas within the City (City of Scotts Valley 2020). The Project site is not located within an identified fire hazard area. The nearest fire hazard area to the Project site is the area surrounding Cadillac Drive, where narrow roads and fuel loads present fire hazard issues, approximately 0.2 miles to the west. The Project site is not located near or adjacent to wildlands that could transport embers from a wildland fire into the Project area. The Project site is located in an area that is comprised primarily of commercial land uses, with commercial and residential uses adjacent to the Project site. The Project does not propose habitable structures that would result in people residing on the Project site, nor does it include components that would pose a substantial risk of wildfire ignition. Therefore, the Project would have no impact related to exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

Setting

Surface Water

The City lies entirely within the watershed of the San Lorenzo River, which originates in the Santa Cruz Mountains and drains to the Monterey Bay in the City of Santa Cruz. The San Lorenzo River watershed drains approximately 138 square miles, consisting of a 25-mile-long main stem and nine principal tributaries (SCCEH 2023). Within the City are parts of three watersheds of major creek tributaries to the San Lorenzo River, as well as a small area which drains towards the river itself. The three creeks are Branciforte Creek, Bean Creek, and Carbonera Creek. The Project site is located within the watershed of Carbonera Creek, which encompasses 7.4 square miles. Carbonera Creek begins 1.3 miles north of the City limits and flows generally southwest through the length of the City, eventually joining Branciforte Creek in the City of Santa Cruz. Carbonera Creek typically becomes dry or near dry during the summer months. Carbonera Creek has two main tributaries in Scotts Valley: Camp Evers Creek runs south of Mt. Hermon; West Branch Creek runs east of Glenwood Drive. These creeks have been altered by road development, bridges, and culverts (City of Scotts Valley 2020).

Groundwater

The Santa Margarita Groundwater Basin underlies the Project site. The Basin covers more than 30 square miles in the Santa Cruz Mountains, forming a roughly triangular area that extends from Scotts Valley in the east, to Boulder Creek in the northwest, to Felton in the southwest. The Basin consists of a sequence of sandstone, siltstone, and shale that are underlain by granite that lie within a geologic trough called the Scotts Valley Syncline. The sandstone units serve as the primary aquifers that provide the majority of groundwater production for the local water supply. The Basin's principal aquifers are the Santa Margarita, Lompico, and Butano Sandstones. The Monterey Formation is an aquitard between the Santa Margarita and Lompico Sandstones. Precipitation is the main source of natural groundwater recharge to the Basin's aquifers. It enters the shallowest aquifers either as direct infiltration through the soil or indirectly from streamflow infiltrating through the streambed. Most creeks in the Basin are fed by groundwater discharges with groundwater accounting for most summer and fall baseflows (SMGWA 2021).

The SMGWA, consisting of representatives from the SVWD, SLVWD, and County of Santa Cruz, oversees the groundwater management activities of the Santa Margarita Groundwater Basin area. Pursuant to the requirements of California's SGMA, enacted in September 2014, the SMGWA's GSP was adopted in 2021 and includes four key basin management goals: (1) Provide a safe and reliable groundwater supply that meets the current and future needs of beneficial users; (2) Support groundwater sustainability measures which enhance groundwater supply in the Basin, utilizing integrated water management principles; (3) Provide for operational flexibility within the Basin through a drought reserve that considers future climate change; and (4) Oversee planning and implementation of cost-effective projects and activities to achieve sustainability (SMGWA 2021).

There are lowered groundwater levels in two of the Basin's primary aquifers in the Mount Herman/South Scotts Valley area. In this area, a portion of the Santa Margarita aquifer is dewatered due to a 30- to 40-foot drop in groundwater level, and the Lompico aquifer has had a 150- to 200-foot groundwater level decline. Groundwater levels in both aquifers declined from the late 1960s to mid-1990s when there was extensive development in the south Scotts Valley area, increasing water demand and impervious surface area. Groundwater level declines were exacerbated by an 11-year drought starting in 1984 (SMGWA 2021). Since 2004 SVWD has actively worked on reducing the system demand through introduction of a recycled water supply, implementation of water use efficiency programs, and minimizing water waste (SVWD and SLVWD 2021).

Groundwater extracted from extraction wells in the Lompico and Butano aquifers is used to supply nearly all water distributed by the SVWD. About 200 acre-feet per year of recycled water is also used to supplement supply. Current extraction wells, Wells #10A, #11A, and #11B are screened in the Lompico aquifer and Wells #3B and Orchard are screened in both the Lompico and Butano aquifers. From October 2022 to the end of March 2023, SVWD extraction was 466.8 AF, about 40 to 140 acre-feet lower than historical extraction volumes during the wet season in the past 5 years. The SVWD extracted groundwater from Wells #10A, #11B, and Orchard in the first half of water year (WY) 2023. About 53% of extraction was from Lompico Wells #10A and #11B and 47% of extraction was from Lompico/Butano Orchard Well. Well #3B has not been pumped recently due to its poor condition and is being replaced and Well #11A was rested during the entire WY 2023 wet season (M&A 2023a). An assessment of groundwater impacts of the Project was prepared by Montgomery & Associates (M&A 2023b) and is provided in Appendix E; the results of this assessment are summarized below.

Water Quality

The Porter-Cologne Water Quality Control Act of 1969 is California's statutory authority for the protection of water quality. Under the Act, the State must adopt water quality policies, plans, and objectives that protect the State's waters for the use and enjoyment of the people. The Act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update water quality control plans for all the waters of an area. The water quality control plan is defined as having three components: beneficial uses which are to be protected, water quality objectives which protect those uses, and an implementation plan which accomplishes those objectives.

The June 2019 Water Quality Control Plan for the Central Coastal Basin (Basin Plan) is the Central Coast RWQCB's current master water quality control planning document (Central Coast RWQCB 2019). The Basin Plan establishes beneficial uses for each of the water bodies in the Central Coast Region. CWA Section 303(d) requires states to identify and prepare a list of water bodies that do not meet water quality objectives, and to establish Total Maximum Daily Loads (TMDLs) for each water body to ensure attainment of water quality objectives. The Central Coast RWQCB has adopted TMDLs for sediment and pathogens for Carbonera Creek (Central Coast RWQCB 2019).

Groundwater in the Santa Margarita Groundwater Basin is generally of good quality and does not regularly exceed primary drinking water standards. However, both naturally occurring and anthropogenic groundwater quality constituents of concern are present in some aquifers and areas. The main naturally occurring groundwater quality concerns in the Basin are salinity (measured as total dissolved solids and chloride), iron, manganese, and arsenic. The main anthropogenic groundwater quality concerns are nitrate and constituents of emerging concern which are mainly from septic and sewer discharges together with organic compounds from environmental cleanup sites or other unidentified local releases (SMGWA 2021).

a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

Less-than-Significant Impact with Mitigation Incorporated. Construction activities could temporarily degrade water quality that could be discharged to the local storm drain system as a result of erosion caused by earthmoving activities or the accidental release of hazardous construction chemicals. Excavation and other construction activities associated with the Project could lead to increased erosion and sedimentation resulting from exposed soils and the generation of water pollutants, including trash, construction materials, and equipment fluids. Additionally, spills, leakage, or improper handling and storage of substances such as oils, fuels, chemicals, metals, and other substances from vehicles, equipment, and materials used during project construction could contribute to stormwater pollutants or leach to underlying groundwater.

Typically, construction-related stormwater pollutant discharges are regulated pursuant to the NPDES Construction General Permit, which requires visual monitoring of stormwater and non-stormwater discharges; sampling, analysis, and monitoring of non-visible pollutants; and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Furthermore, the Construction General Permit requires implementation of a Stormwater Pollution Prevention Plan (SWPPP) that outlines project-specific BMPs to control erosion. Such BMPs include the use of temporary de-silting basins, construction vehicle maintenance in staging areas to avoid leaks, and installation of silt fences and erosion control blankets. Coverage under the Construction General Permit is required for projects resulting in greater than 1 acre of disturbance area. Because the Project site is less than 1 acre, the Project is not subject to the Construction General Permit requirements. As such, if not properly managed, construction activities could result in erosion and sedimentation, as well the discharge of chemicals and materials. In such an instance, applicable water quality standards and waste discharge requirements could be violated, and polluted runoff could substantially degrade water quality in the local storm drain system, resulting in a potentially significant construction-related impact on water quality. Implementation of MM HYD-1, provided below, would reduce the construction-related impact on water quality to a less-than-significant level.

MM HYD-1: Implement Stormwater Control During Construction. Erosion control and stormwater pollution prevention best management practices (BMPs) shall be implemented to prevent the discharge of construction waste, sediment, debris, or contaminants during construction activities. BMPs shall include, but would not be limited to, the following:

- Installation of perimeter sediment controls such as silt fences, fiber or straw rolls, and/or bales along limits of work/construction areas;
- Minimizing temporary stockpiling of excavated material, locating stockpiled spoils in areas where it cannot enter the storm drain system, and covering of stockpiled spoils;
- Revegetation and physical stabilization of disturbed graded and staging areas;
- Sediment control including fencing, dams, barriers, berms, traps, and associated basins;
- Wind erosion controls such as watering active construction areas as necessary to control fugitive dust, covering inactive storage piles, and covering all trucks hauling dirt or loose materials off site;
- Storage of hazardous materials within an established containment area;
- Inspection of construction equipment daily for leaks of oil, lubricants, or other potential stormwater pollutants, placement of plastic over any ground surface where fueling or equipment maintenance is to occur, and placement of drip pans under equipment parked on site; and
- Keeping emergency spill kits and an adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) on site at all times.

As described in Chapter 2, Project Description, groundwater generated during well development and testing would be discharged in accordance with a sewer discharge permit from the City or diverted to a storm drain inlet just east of the northeast corner of the property on Scotts Valley Drive. The SVWD operates under the Statewide NPDES Permit for Drinking Water System Discharges to Waters of the United States (Order WQ 2014-0194-DWQ, General Order No. CAG140001) issued by the SWRCB. The NPDES Permit allows the SVWD to discharge water into regional stormwater systems pursuant to Section 402 of the federal Clean Water Act (NPDES Permit) and Article 4, Chapter 4, Division 7 of the California Water Code (Waste Discharge Requirements). All water discharged to the storm drain would comply with the NPDES Permit requirements.

Project operation would not involve ground disturbance or result in an increase in impervious surface area on the site, which would limit the potential for off-site migration of sediment and pollutants in runoff. As described in Section 3.9, Hazards and Hazardous Materials, routine use and storage of hazardous materials on the site would be managed in accordance with applicable federal, state, and local laws and regulations, which would limit the potential for water quality impacts associated with leaching or runoff of chemicals. Therefore, with incorporation of MM HYD-1, the Project would have a less-than-significant impact on water quality.

b) ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

Less-than-Significant Impact. The Project does not include construction of residential, commercial, industrial, or other development that would generate new water demand requiring increased groundwater extraction. However, the Project would result in groundwater pumping at the Project site. To evaluate impacts on groundwater from pumping at the Project site, the Santa Margarita Groundwater Basin groundwater model was used to simulate additional drawdown caused by the new well on nearby production wells (see Appendix E). The simulation modeled pumping from WY 2019 through WY 2073. The "No Project" (baseline) scenario includes the SVWD's plans to take Wells 11A and 11B out of production due to age and deteriorating well conditions and the soon-to-be constructed replacement of Well 3B. The No Project scenario is based on an assumed annual 1% increase in demand using WY 2023 extraction as the starting point. The "Project" scenario assumes the same annual extraction as the No Project scenario, but with the addition of the proposed Grace Way Well in WY 2025. The Project scenario models extraction from the Grace Way Well beginning at 270 acre-feet per year in WY 2025, with a projected annual demand increase of 1%, until WY 2073 when 313 acre-feet per year is extracted.

Table 8 summarizes results of the groundwater simulation. Wells with responses to pumping at the new well on the Project site were those screened in the Lompico and/or Butano aquifers; wells screened in the Santa Margarita aquifer and Monterey Formation, which are above the Lompico and Butano aquifers, had no response to pumping at the new well and are not discussed herein. Wells screened in the Lompico aquifer include Wells 10/10A, 11A, and 11B. Wells screened in the Butano aquifer include SVWD TW-19. Wells screened in the Lompico and Butano aquifers include Well 3B/3B Replacement, SVWD Monitor #15, and Orchard Well.

Table 8. Summary of Difference in Groundwater Levels between Project Scenarios and Baseline Conditions

Wells	Distance from Project Site (feet)	Groundwater Level Difference between Project Scenario and No Project (Baseline) Scenario (feet)		
		Maximum Lowering	Maximum Rise	Average Difference
Project Site (New Well)	—	31	0	−22
Well 11B	750	18	0	−13
Well 11A*	1,460	16	0	−11
Well 3B / 3B Replacement	4,900	0	89	+63
SVWD Monitor #15*	4,900	0	43	+31
SVWD TW-19*	4,900	0	1.5	+0.9
Orchard Well	6,200	0	99	+69
Well 10A (monitored by Well 10)*	7,400	9	0	−6

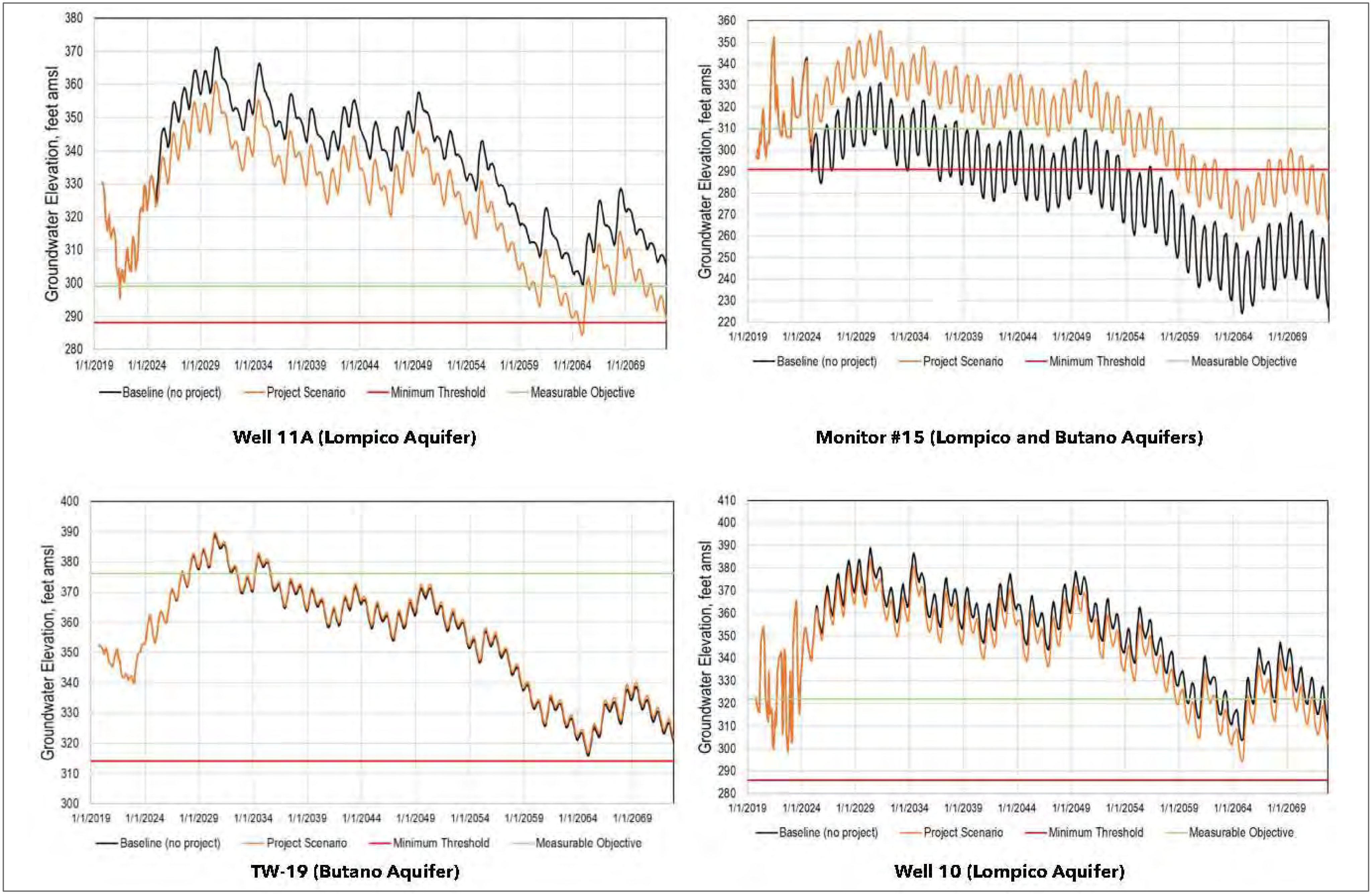
Source: Appendix E.
Notes: * = representative monitoring point in the Santa Margarita GSP.

Pumping 270 to 313 acre-feet per year (88 to 102 million gallons per year) at the new well would cause groundwater levels in the immediate vicinity of the Project site to fall up to 31 feet below current levels. The drawdown simulated would generally decrease with distance away from the Project site. North of the Project site, Well 3B/3B Replacement, SVWD Monitor #15, SVWD TW-19, and Orchard Well experienced increased groundwater levels because the Project allows pumping in existing SVWD water supply wells to be reduced. South of the Project site, Well 11A, Well 11B, and Well 10 experienced between 9 to 18 feet of groundwater level decline. The Project scenario demonstrates that the Project would allow pumping to be redistributed, which would improve groundwater levels in existing Lompico/Butano aquifer wells and minimally cause drawdown in Lompico aquifer wells to the south (see Appendix E).

The Santa Margarita Groundwater Basin GSP includes representative monitoring points to reflect general aquifer conditions in the area, where numeric values for sustainable management criteria, including minimum thresholds, measurable objectives, and interim milestones, are set (SMGWA 2021). For each well that is a representative monitoring point, the GSP identifies a minimum threshold for chronic lowering of groundwater levels which is the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results (SMGWA 2021).

In the groundwater modeling simulation conducted for the Project, four wells are representative monitoring points in the GSP (Well 11A, SVWD Monitor #15, SVWD TW-19, and Well 10). Figure 3 shows the simulated hydrographs for these wells without the implementation of the GSP projects and management actions for the Project and No Project scenarios. As shown on Figure 3, simulated groundwater elevations for these four wells remained above the minimum threshold prior to 2042 by when the SMGWA needs to achieve sustainability. After 2058, Well 11A simulated groundwater elevations fell below the minimum thresholds for a period of time for the Project scenario, and SVWD Monitor #15 simulated groundwater elevations fell below the minimum thresholds for a period of time for both the Project and No Project scenario, as shown on Figure 3. This is considered an undesirable result in the adopted Santa Margarita Groundwater Basin GSP. However, the GSP includes a range of projects and management actions to be implemented, which will allow for sustainability in the Basin by 2042. It is anticipated that projects will be implemented prior to 2042 to raise groundwater levels closer to measurable objectives and thus provide the buffer needed to prevent groundwater levels from falling below the minimum thresholds. Furthermore, in accordance with the standard operational practice that would be implemented as part of the Project, described above in Section 2.6, Operation and Maintenance, the Project would be operated so that it is consistent with the sustainable management criteria and avoids any undesirable results.

Thus, when projects and management actions in the GSP are implemented to reduce native groundwater extraction, and with adherence to the Project’s standard operational practice, the Project would not be expected to cause groundwater levels at representative monitoring points to fall below minimum thresholds. Therefore, the Project would have a less-than-significant impact on groundwater supplies and sustainable management of the Santa Margarita Groundwater Basin.



SOURCE: M&A 2023b (see Appendix E)

DUDEK

FIGURE 3

Simulated Hydrographs for Representative Monitoring Points

Grace Way Well Project

c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i) *Result in substantial erosion or siltation on- or off-site?*

and

ii) *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?*

Less-than-Significant Impact with Mitigation Incorporated. There are no natural drainage features on or near the Project site. The Project would not alter the course of a stream or river because the Project site contains no such features. As described in Chapter 2, Project Description, the Project would not result in a change in the impervious surface area on site, and no associated increase in stormwater runoff would occur. The Project would generally preserve the existing drainage pattern of the site and would include a connection to the existing storm drain infrastructure along Scotts Valley Drive.

Construction activities would entail grading, excavation, and other ground-disturbing activities, which could temporarily alter surface drainage patterns and increase the potential for erosion or siltation. Because the Project would disturb less than 1 acre, the Project would not be required to comply with the NPDES Construction General Permit, which would require implementation of BMPs and erosion control measures, thereby reducing the effects of construction activities on erosion and drainage patterns. However, implementation of MM HYD-1, described above, which would require implementation of BMPs and erosion control measures, would reduce the effects of construction activities on erosion and drainage patterns and ensure that erosion, siltation, and runoff are properly controlled. Therefore, Project construction would have a less-than-significant impact related to erosion, siltation, and runoff with implementation of MM HYD-1.

iii) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less-than-Significant Impact. As discussed above, the Project would not result in an increase in impervious surface area on the site and post-construction stormwater runoff would not increase over existing conditions. Therefore, the Project would have a less-than-significant impact related to creation of runoff water in exceedance of stormwater drainage capacity or additional sources of polluted runoff.

iv) *Impede or redirect flood flows?*

No Impact. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the Project site is located within Zone X, an area of minimal flood hazard (FEMA 2012). Therefore, the Project would have no impact on flood flows.

d) ***In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?***

No Impact. As indicated above, the Project site is not located within a flood hazard zone. Tsunamis and seiches do not pose hazards to the Project due to the inland location of the Project site and lack of nearby bodies of standing water. Therefore, the Project would have no impact related to risk of release of pollutants due to inundation in flood hazard, tsunami, or seiche zones.

e) ***Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

Less-than-Significant Impact with Mitigation Incorporated. As indicated above, the Project site is located within the area subject to the Central Coast RWQCB Basin Plan, which designates beneficial uses for surface waters in the region and associated water quality objectives to fulfill such uses. As described above, the Project site is not located near a stream or river and would not alter water quality parameters established in the Basin Plan. Groundwater generated during initial development would be diverted to the on-site sanitary sewer connection and discharged in accordance with a sewer discharge permit from the City of Scotts Valley. Discharge of final development and testing groundwater would be diverted to a stormwater drain inlet on the west side of Scotts Valley Drive and just east of the northeast corner of the property. All water discharged to the storm drain would comply with the requirements of the SVWD's NPDES Permit for Drinking Water System Discharges to Waters of the United States (Order WQ 2014-0194-DWQ, General Order No. CAG140001) issued by the SWRCB. In addition, implementation of erosion-control BMPs during construction (see MM HYD-1 under Question 3.10a) would prevent erosion and thereby protect overall water quality. The Project would not result in an increase in impervious surface area on site and therefore would not increase runoff and associated pollutants. Furthermore, Project operation would not involve ground disturbance that would contribute to runoff of sediment or sediment-bound pollutants, and the Project does not involve septic systems, pet parks, agricultural land, or other land uses commonly associated with high concentrations of nutrients, indicator bacteria, or chemical toxicity. Thus, the Project would not conflict with or obstruct implementation of the Basin Plan.

As previously discussed, the Project site overlies the Santa Margarita Groundwater Basin. The SMGWA, consisting of representatives from the SVWD, SLVWD, and County of Santa Cruz, oversees the groundwater management activities of the Santa Margarita Groundwater Basin area. The GSP governing the Santa Margarita Groundwater Basin was adopted by the SMGWA Board of Directors in November 2021 and approved by the California Department of Water Resources (DWR) in April 2023. The Project includes a standard operational practice to ensure that it would be consistent with the sustainable management criteria and avoid any undesirable results identified in the approved GSP for the Santa Margarita Groundwater Basin, and in any future revisions to the GSP. To avoid any undesirable results in the Santa Margarita Groundwater Basin and to maintain groundwater basin sustainability, minimum threshold groundwater elevations identified in the GSP at representative monitoring points close to the Project cannot be exceeded during operation of the Project. If groundwater elevations approach minimum thresholds in representative monitoring points close to the Project, the SVWD would need to redistribute pumping amongst its other wells or implement conjunctive use or managed recharge projects Thus, the Project would not conflict with or obstruct implementation of the GSP.

Therefore, the Project would have a less-than-significant impact related to conflicts with a water quality control plan or Sustainable Groundwater Plan.

3.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Setting

The Project site is within the City of Scotts Valley in a developed commercial and residential area, surrounded by urban/suburban development. The Project site has a General Plan land use designation of Service Commercial and is within the Service Commercial zoning district. Commercial land uses are located northeast and southwest of the Project site. Rural Residential and High-Density Residential land uses are located northwest of the Project site across Grace Way. Service Commercial land uses are located southeast of the Project site across Scotts Valley Drive. As noted in Section 2.7, Project Approvals, the Project would be exempt from City building and zoning ordinances under California Government Code Section 53091(d) and (e), since the Project relates exclusively to the production, generation, and transmission of water supplies.

a) Would the project physically divide an established community?

No Impact. The Project would not include any aboveground linear features that would have the potential to serve as barriers that could physically divide an established community. The Project would include construction of a groundwater well facility on a developed Project site which is surrounded by development. Utility improvements would include raw water, sewer, storm drain lateral connections to the existing lines that run beneath Scotts Valley Drive adjacent to the Project site, which would be below ground and would not have the potential to divide an established community. Therefore, the Project would have no impact related to physical division of an established community.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. Pursuant to California Government Code Section 53091(d) and (e), the building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water supplies. As the Project would entail construction of a new groundwater well facility and relates exclusively to the production, generation, and transmission of water supplies, the building and zoning ordinances of the City of Scotts Valley would not apply to the Project. Nonetheless,

Table 9 includes an analysis of the Project's potential for conflicts with specific objectives, policies, and actions contained in the Scotts Valley General Plan relevant to the Project for information purposes.

Table 9. Analysis of the Project's Potential to Conflict with the Scotts Valley General Plan

General Plan Objective, Policy, or Action	Project Consistency
Objective PSO-558. Promote adequate water service for residents of the Planning Area.	**No Conflict.** The Project would provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand and strengthen the SVWD's ability to meet potential demand to deliver water to neighboring agencies under drought or emergency conditions in support of regional water supply planning efforts.
Policy PSP-559. The City shall cooperate with the water districts which serve the Planning Area and with owners of private wells to promote water service, infrastructure improvements, and sound resource management.	**No Conflict.** The Project would provide groundwater infrastructure improvements in support of SVWD water service and would be operated in a manner that is consistent with the Santa Margarita Groundwater Basin GSP.
Action PSA-563. Participate in a basin-wide groundwater management program. Consult with the Scotts Valley and San Lorenzo Valley Water Districts to determine the effects of proposed private well development on basin-wide groundwater management.	**No Conflict.** The Project would be consistent with the sustainable management criteria and avoid any undesirable results identified in the adopted Santa Margarita Groundwater Basin GSP and in any future revisions to the GSP, as described in the Project's standard operational practice, in support of achievement and maintenance of groundwater basin sustainability.

Source: City of Scotts Valley 1994d.

Therefore, the Project would have no impact related to causing a significant environmental impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Setting

The California Geological Survey is responsible for classifying land into Mineral Resource Zones (MRZs) under the Surface Mining and Reclamation Act (SMARA) based on the known or inferred mineral resource potential of that land. Mineral resources lands are classified based on geologic and economic factors without regard to existing land use and ownership (CGS 2021). The following MRZ categories are used to classify land:

- MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.
- MRZ-2: Areas where geologic information indicates the presence of significant mineral resources.
- MRZ-3: Areas containing known or inferred construction aggregate resources of undetermined mineral resource significance.
- MRZ-4: Areas where available geologic information is inadequate to assign to any other MRZ category.

The mineral lands classification of the Project site is MRZ-1 (County of Santa Cruz 2022).

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

and

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. As indicated above, the mineral lands classification of the Project site is MRZ-1, indicative of no significant mineral deposits (City of Scotts Valley 1994; County of Santa Cruz 2022). Therefore, the Project would have no impact on the availability of known mineral resources of state, regional, or local importance.

3.13 Noise

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Setting

Acoustic Fundamentals

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective in nature, and can vary substantially from person to person. The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. There is a strong correlation between the way humans perceive sound and A-weighted decibels (dBA). For this reason, the dBA can be used to evaluate community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., walls, building façades, berms). Noise generated from mobile sources generally attenuates at a rate of 3 dB (typical for hard surfaces, such as asphalt) to 4.5 dB (typical for soft surfaces, such as grasslands) per doubling of distance, depending on the intervening ground type. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 dB to 7.5 dBA per doubling of distance for hard and soft sites, respectively (Caltrans 2020a). Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, or intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver.

Noise Descriptors

The intensity of environmental noise levels can fluctuate greatly over time and as such, several different descriptors of time-averaged noise levels may be used to provide the most effective means of expressing the noise levels. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment near the receptor(s). Noise descriptors most often used to describe environmental noise are defined as follows:

- **L_{max} (Maximum Noise Level):** The maximum instantaneous noise level during a specific period of time.
- **Ln (Statistical Descriptor):** The noise level exceeded "n" percent of a specific period of time. For example, L_{50} is the median noise level, or level exceeded 50% of the time.
- **L_{eq} (Equivalent Noise Level):** The average noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the L_{eq} In noise environments determined by major noise events, such as aircraft over-flights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.
- **L_{dn} (Day-Night Average Noise Level):** The 24-hour L_{eq} with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10 p.m. and 7 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.
- **CNEL (Community Noise Equivalent Level):** The CNEL is similar to the L_{dn} described above, but with an additional 5-dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, the reported CNEL is typically approximately 0.5 dBA higher than the L_{dn}.

Community noise is commonly described in terms of the ambient noise level which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (L_{eq}) which corresponds to the steady-state A-weighted sound level containing the same total energy as the time-varying signal over a given time period (usually 1 hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and shows very good correlation with community response to noise. Use of these descriptors along with the maximum noise level occurring during a given time period provides a great deal of information about the ambient noise environment in an area.

Groundborne Noise and Vibration

Vibration is similar to noise in that it is a pressure wave traveling through an elastic medium involving a periodic oscillation relative to a reference point. Vibration is most commonly described in respect to the excitation of a structure or surface, such as in buildings or the ground. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. The strength of vibration signals (e.g., amplitude, magnitude, scale, etc.) are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal, or the quantity of displacement measured from peak to trough of the vibration wave. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of 1 second. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2018). PPV and RMS vibration velocity are nominally described in terms of inches per second (in/sec).

Existing Noise Environment

The Project site is located on a partially developed parcel, approximately one-third of an acre in size, adjacent to the northwestern right-of-way of Scotts Valley Drive. The Project site is zoned as Service Commercial and is surrounded by rural residential and high-density residential to the northwest across Grace Way, Service Commercial uses adjoining the site to the northeast and southwest, with additional Service Commercial land uses southeast of the site across Scotts Valley Drive.

The Scotts Valley General Plan identifies a number of existing noise sources which influence the ambient noise environment within the City. The identified noise sources in the area include emergency service vehicles, landscaping equipment, occasional aircraft overflights, and individual unspecified local noise sources contributing to the cumulative noise levels. However, the most dominant noise source is transportation noise, primarily generated from vehicular traffic on the local and regional roadway network (i.e., Scotts Valley Drive and Highway 17).

Existing Nearby Noise-Sensitive Land Uses

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of the intended purpose. The Scotts Valley General Plan identifies health care facilities, churches, libraries, schools, and retirement homes as noise-sensitive land uses that are typically given special attention to achieve protection from excess noise. Additionally, residential dwellings and other facilities where people are sleeping are a primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and the potential for interrupting periods of rest and relaxation.

Existing noise-sensitive land uses nearest the Project include Pentecostals of Santa Cruz located adjacent to the southwestern project boundary, multi-family residential adjacent to the northwestern project site boundary, single-family residential to the northwest across Grace Way, and multi-family residential to the north across Grace Way. Other noise-sensitive land uses in the vicinity of the Project are single-family and multi-family residences generally located further to the north and northwest, and St. Philip the Apostle Episcopal Church further to the southwest.

Existing Ambient Noise Survey

To characterize the existing ambient noise environment at the Project site and in the immediate vicinity, and to establish baseline noise conditions against which to compare proposed Project noise levels, sound pressure level measurements were conducted from June 30, 2023, to July 05, 2023. All noise measurements were performed in accordance with American National Standards Institute (ANSI) and American Standards for Testing and Measurement (ASTM) guidelines, at three locations on the Project site.

Noise measurements were performed using Larson Davis Laboratories Model 831, Type 1 precision integrating sound level meters (SLMs). Field calibrations were performed on the SLMs with an acoustic calibrator before and after the measurements. All instrumentation components, including microphones, preamplifiers and field calibrators have laboratory certified calibrations traceable to the National Institute of Standards and Technology (NIST). The equipment used meets all pertinent specifications of the ANSI for Type 1 SLMs (ANSI S1.4-1983 [R2006]). Meteorological conditions during the monitoring periods were fair with temperatures ranging from 54°F to 89°F, average winds from 0 to 8 miles per hour, and clear to partly cloudy skies during the survey period. No precipitation was experienced during the monitoring periods. Table 10 summarizes the ambient noise measurements.

Table 10. Summary of Ambient Noise Measurements

Site	Location	Date	L_{dn}	Average Noise Levels, dBA (Maximum Hourly Noise Levels, dBA)					
				Daytime			Nighttime		
				L_{eq}	L_{max}	L_{50}	L_{eq}	L_{max}	L_{50}
Long-Term Monitoring									
LT-1	Western portion of Project site	6/30/23	53.3	50.5 (51.5)	63.5 (69.3)	49.5 (50.8)	45.8 (52.0)	59.8 (77.2)	40.2 (48.0)
		7/1/23	59.3	49.3 (51.1)	62.4 (71.4)	48.1 (49.7)	53.3 (62.5)	59.8 (90.4)	39.4 (44.4)
		7/2/23	51.5	49.4 (51.9)	63.5 (72.2)	48.0 (49.2)	49.3 (51.0)	67.0 (72.6)	46.9 (48.5)
		7/3/23	51.9	50.9 (51.5)	63.7 (67.9)	49.9 (50.8)	49.5 (51.1)	65.8 (66.3)	47.5 (50.0)
		7/4/23	59.0	51.0 (56.5)	66.5 (82.2)	47.3 (49.0)	48.2 (48.9)	65.5 (72.1)	46.3 (48.0)
		7/5/23	51.0	51.3 (52.0)	64.2 (70.2)	50.5 (51.1)	–	–	–
Short-Term Monitoring									
ST-1	Northwestern portion of Project site	7/5/23	–	50.5	58.3	50.0	–	–	–
ST-2	Southern portion of Project site (Traffic Calibration)	7/5/23	–	68.3	81.2	65.9	–	–	–

Source: Dudek 2023.
Notes: dBA = A-weighted decibels; Ldn = Day–Night noise level; Leq = energy-average equivalent noise level; Lmax = maximum noise level; L50 = sound level exceeded 50% of the period.

Local Policies, Regulations, and Ordinances

Scotts Valley General Plan

The Scotts Valley General Plan Noise Element discusses the noise environment within the City and presents goals, policies, and actions to help guide planning decisions and protect against exposure to excessive noise. The Scotts Valley Noise Element does not contain specific noise level thresholds for the evaluation of noise levels within the City that are associated with commercial/utility stationary sources such as those associated with the Project; but establishes allowable noise level increases for which a project must not exceed. The Scotts Valley noise increase standards are shown in Table 11. The Scotts Valley General Plan does not contain guidance or noise level standards for noise generated by construction activities. For stationary (non-transportation) noise sources, such as those associated with the Project, the Scotts Valley General Plan does not contain applicable criteria; however, throughout the objectives and policies of the General Plan, the City uses 60 dBA L_{dn} as a threshold for requiring an acoustical analysis for a sensitive use, land use compatibility of proposed new residential, and the inclusion of noise-attenuating features where outdoor recreation areas, especially those associated with new residential, where the ambient level exceeds 60 dBA L_{dn}. Therefore, while not directly applicable to the Project, 60 dBA L_{dn} is included as noise level standard for evaluation of the Project impacts.

Table 11. Noise Increase Standards

Proposed New Use/ Location of dBA Reading	Maximum Noise Increase in (L_{dn}) dBA Adjacent to Existing:			
	Sensitive	Residential	Commercial	Industrial
Sensitive				
At Property Line	3	5	5	5
50 feet from Property Line	3	3	--	--
Residential				
At Property Line	3	5	5	5
50 feet from Property Line	3	3	--	--
Commercial				
At Property Line	3	5	5	5
50 feet from Property Line	3	3	--	--
Industrial				
At Property Line	3	5	5	7
50 feet from Property Line	3	3	--	--

Source: City of Scotts Valley 1994b.

Scotts Valley Municipal Code

The City establishes qualitative guidance for the control and enforcement of its noise environment within Chapter 5.17 of the Scotts Valley Municipal Code, as presented below. The noise restrictions presented in the Scotts Valley Municipal Code do not address noise generated from construction activities.

5.17.030 - Exemptions.

A. The proper use of a siren or other alarm by a police, fire, or authorized emergency vehicle as defined in the California Vehicle Code. Likewise, any stationary fire alarm operated by the fire district of the city is exempt from the provisions of this chapter;

B. The proper use of emergency generators by any privately owned service facility, up to a maximum of 75 dBA measured at the property line, necessary to maintain service essential to the public health, safety or welfare;

   1. Noise generated by city-permitted construction activities occurring during authorized construction hours as set forth elsewhere in this Code.

5.17.040 - Violations and Penalties.

A. No person shall make, cause, suffer, or permit to be made any offensive noises which disturb or annoy people of ordinary sensitiveness or which are so harsh or so prolonged or unnatural or unusual in their use, time or place as to cause physical discomfort to any person, and which are not necessary in connection with any lawfully conducted activities.

B. No person shall, between the hours of ten p.m. and eight a.m. [10:00 p.m. to 8:00 a.m.], make, cause, suffer, or permit to be made any offensive noise within the vicinity of any building or place regularly used for sleeping purposes.

Impact Discussion

a) ***Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

Less-than-Significant Impact with Mitigation Incorporated. Potential noise impacts associated with the Project were calculated and analyzed based on Project construction and operations information; information contained in the transportation analysis and air quality analysis prepared for the Project; and data obtained during on-site noise measurements. Observations made during the site survey along with land use information and aerial photography were used to determine potential locations of sensitive receptors near the Project. The following discussion evaluates the Project's potential to generate a substantial temporary increase in ambient noise levels during construction due to on-site construction activities as well as construction traffic, or a substantial permanent increase in ambient noise levels during operation.

On-Site Construction

The Project would generate noise associated with the operation of heavy construction equipment and construction-related activities in the vicinity of the Project site. Construction noise levels in the vicinity of the Project site would fluctuate depending on the particular type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and receptors. The effects of construction noise depend largely on the types of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the vicinity of the receptors. Construction is planned to occur in several discrete stages, with each stage varying the required equipment mix, operations, and the associated noise. These stages alter the characteristics of the noise environment on the Project site and in the surrounding community for the duration of construction.

The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) and Federal Transit Administration (FTA) have measured and documented maximum construction noise levels and operational characteristics for a wide range of construction machinery, which were compiled and used to develop reference noise levels that are summarized in Table 12. These operational characteristics of heavy construction equipment are additionally typified by short periods of full-power operation followed by periods of operation at lower power, idling, or powered-off conditions. These characteristics are accounted for through the application of typical "acoustical usage factors" (operational percentage) to the reference maximum noise levels.

Table 12. Typical Construction Equipment Noise Emission Levels

Equipment Description	Acoustical Use Factor (%)	L_{max} at 50 feet (dBA, slow)[1]
Auger Drill Rig	20	85
Backhoe	40	80
Compressor (air)	40	80
Concrete Mixer Truck	40	85
Concrete Saw	20	90
Crane	16	85
Dozer	40	85
Dump Truck	40	80
Excavator	40	85
Flat Bed Truck	40	84
Front End Loader	40	80
Generator	50	82
Grader	40	85
Jackhammer[2]	20	85
Mounted Impact Hammer (hoe ram)[2]	20	90
Paver	50	85
Pneumatic Tools	50	85
Pumps	50	77
Roller	20	85
Tractor	40	84
Vacuum Excavator (Vac-truck/Vactor)	40	85

Sources: DOT 2006; FTA 2018.
Notes: L_{max} = maximum noise level; dBA = A-weighted decibels.
1 All equipment fitted with a properly maintained and operational noise-control device, per manufacturer specifications.
2 Impulsive/impact device.

Construction-related noise effects were assessed with respect to nearby noise-sensitive receptors and their relative exposure, based on application of reference noise level data. The construction phases and individual equipment mix for each of the components discussed below were based on the construction information presented in Chapter 2, Project Description, and Section 3.3, Air Quality. The construction phases for the Project include mobilization, demolition, site preparation, grading, well drilling, well development and testing, building construction, paving, architectural coating utility/conduit connections and demobilization.

The loudest mix of equipment associated with construction of new well facility would occur during the well-drilling phase; with the building construction and demolition construction phases being marginally quieter. The well-drilling phase would incorporate the use of a crane, forklift, tractor, drill rig, pumps, generator, air compressor and miscellaneous other construction equipment; with a resulting noise level of 88.5 dBA L_{eq} at a distance of 40 feet; the distance from the geographic center of the construction site to the nearest noise-sensitive land uses, the multi-family residential to the west. As described in Chapter 2, Project Description, Project construction would include implementation of BMPs to limit construction activities to daytime hours when feasible, and install a 24-foot-tall temporary noise barrier surrounding the well construction area during the well-drilling phase.

As indicated above, the City has not established a quantitative threshold criterion for the assessment of construction noise; however, the FTA Transit Noise and Vibration Impact Assessment Manual provides recommended thresholds of 80 dBA L_{eq} (8-hour) during daytime hours (7:00 a.m. to 10:00 p.m.) and 70 dBA L_{eq} (8-hour) during the nighttime hours (10:00 p.m. to 7:00 a.m.) for residential land uses. Even with the proposed 24-foot-tall temporary noise barrier, the Project's unmitigated construction noise levels due to on-site construction activities would exceed both the daytime and nighttime FTA construction noise level thresholds at the nearest noise-sensitive residential land use to the northwest (at a distance of 40 feet). Therefore, construction noise associated with the Project would be a potentially significant impact.

Application of MM NOI-1 would reduce construction noise levels and minimize disruption at nearby noise-sensitive land uses through limitation of construction operational hours; selection of construction equipment using "quiet" technologies were possible; use of acoustical enclosures, barriers, shrouds, and mufflers; and through appointing a disturbance coordinator for community outreach and to receive and proactively address Project-generated construction noise concerns. Therefore, with incorporation of MM NOI-1, Project construction would have a less-than-significant impact related to the generation of a substantial temporary increase in ambient noise levels in excess of applicable standards.

MM NOI-1: Construction Noise. The Scotts Valley Water District and its contractor shall implement appropriate best management practices (BMPs) to reduce construction noise levels emanating from construction activities with a primary goal to minimize disruption and annoyance at existing noise-sensitive receptors in the Project vicinity. A detailed construction noise reduction plan shall be developed identifying the schedule for major noise-generating construction activities and procedures for coordination with the owner/occupants of nearby noise-sensitive land uses, so that construction activities can be scheduled to minimize noise disturbances. The Project's contractor shall implement, but would not be limited to, the following measures related to construction noise:

- Restrict construction activities and use of equipment that have the potential to generate significant noise levels (e.g., use of concrete saw, mounted impact hammer, jackhammer, rock drill, etc.) to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays.
- Construction activities requiring operations continuing outside of daytime hours (e.g., borehole drilling) shall locate noise-generating equipment as far as feasibly possible from noise-sensitive receptors.
- Construction equipment and selection thereof shall make use of quiet technologies where such technologies or models exist.
- Maximum physical separation, as far as practicable, shall be maintained between construction equipment and adjacent noise-sensitive land uses/receptors.
- Construction equipment and vehicles shall be fitted with efficient, well-maintained mufflers that reduce equipment noise emission levels at the Project site. Internal-combustion-powered equipment shall be equipped with properly operating noise-suppression devices (e.g., mufflers, silencers, wraps) that meet or exceed the manufacturer's specifications. Mufflers and noise suppressors shall be properly maintained, tuned, and inspected on a routine basis to ensure proper fit, function, and minimization of noise.

- Impact tools shall have the working area/impact area shrouded or shielded whenever possible, with intake and exhaust ports on power equipment muffled or suppressed and directed away from nearby noise-sensitive receptors. This may necessitate the use of temporary or portable, application-specific noise shields, enclosures, or barriers.
- Site support equipment such as pumps, generators, air compressors and other stationary noise-generating equipment shall be located within acoustically treated enclosures, shrouded, or shielded to prevent the propagation of sound in the direction of nearby noise-sensitive receptors in the surrounding areas, regardless of construction hours. Acoustical enclosures, shrouds, or temporary barriers shall meet or exceed a sound transmission class (STC) rating of 27 or greater.
- Construction equipment shall not be idled for extended periods of time (i.e., 5 minutes or longer) in the immediate vicinity of noise-sensitive receptors or when not foreseeably in use.
- The contractor shall designate and identify a "disturbance coordinator" who will be the responsible point of contact for construction noise concerns or complaints. The disturbance coordinator's contact phone number along with the appropriate Scotts Valley Water District contact information shall located on a sign, conspicuously placed and clearly visible to the public. The disturbance coordinator will determine the cause of the noise complaint and respond to or implement corrective action within 48-hours, to resolve the issue(s) which the complaint is regarding. All complaints shall be logged, noting the date, time, issuing party's name and contact information, the nature of the complaint, and any corrective action taken to resolve the issue.

Construction Traffic

In addition to heavy-duty construction equipment noise, the movement of equipment, haul trucks, and workers to and from the Project site during construction would generate temporary traffic noise along access routes to the site, primarily Scotts Valley Drive. The transport of heavy-duty construction equipment onto the Project site would be minimized during construction by keeping construction equipment staged on site for individual construction phases when possible. For this reason, the movement of heavy-duty construction equipment is expected to be minimal. Haul trucks and the construction worker commutes are expected to occur on a daily basis, with the majority of construction activities taking place from 7:00 a.m. through 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays for most construction phases, with the exception of borehole drilling operations, which would operate 24 hours per day over an approximately 3-month period. There are an estimated eight haul truck trips associated with the overall Project, with two haul truck trips occurring during each of the following construction stages, mobilization, demolition, drilling, and demobilization. Based on information provided, during peak construction operations the Project would have between two and four vendor trips per day and between four and ten trips associated with construction worker commute trips; with a total number of non-heavy truck trips of 104 trips over the course of Project construction.

Based on the ambient noise increase criteria contained in the Scotts Valley General Plan, the Project would be considered to have a significant impact if it would result in an increase of 3 to 7 dBA L_{dn} depending on the land use of the proposed source parcel, the land use of the adjacent receptor parcel, and the location on the proposed source parcel where the noise measurement is performed. For the Project to result in an increase of 3 dB, the average daily trips on a roadway would need to result in double the existing traffic volume. Given the traffic volumes available from the County of Santa Cruz

(SCCRTC 2022) for Scotts Valley Drive (16,542 ADT), the maximum haul truck trips and construction worker/vendor trips to the Project site, traffic generated by the construction of the Project would not cause a doubling of average daily trips in the immediate area. As a result, the noise level increases along Project-area roadways used to reach the site would be less than 3 dBA. Therefore, the Project's construction traffic would have a less-than-significant impact related to the generation of a substantial temporary increase in ambient noise levels in excess of applicable standards.

Long-Term Operation

As mentioned, long-term operation and maintenance of the new well would be consistent with ongoing SVWD groundwater well operations in the City and surrounding unincorporated areas. The proposed well has a design capacity of 600 gpm and is anticipated to pump approximately 250 to 280 acre-feet per year. The well would operate on an as-needed basis, which could result in short pump operational intervals or continuous operation with pumping volume regulated through the well control systems. Sound sources associated with the proposed groundwater well would be relatively minimized in comparison to traditional above-grade pump and motor configurations due to the use/specification of a submersible pump and motor assembly, which would substantially reduce noise levels associated with the pump an motor to well below ambient noise levels during normal operation. Additional sound sources associated with the proposed well system could include semi-impulsive clicking sounds from pressure switches and sensors, high-frequency sounds from the VFD controller, opening and closing of various valves, and other control system components. These sound sources would be relatively quiet and located within the control building, which would further reduce the sound levels from the well system components. Additionally, the proposed Project design incorporates an alarm indicator for the VFD system, which would produce less than 60 dB on the inside of the control building; and, if deemed necessary, additional acoustically rated noise-reducing baffles, louvers, or treatments would be installed to attenuate noise produced within the control building to appropriate levels.

Ongoing, long-term activities associated with the groundwater well would also include routine maintenance such as visual inspections of the wellhead, casing, pump, and other associated equipment; water quality testing; pump performance tests; lubrication; electrical connection inspections; and replacement of worn-out components as required. These operations, maintenance, and testing activities would be performed within the well pump control building, which would reduce noise levels produced from the operations and maintenance activities within the control building to appropriate exterior noise levels. With the proposed Project design locating Project equipment within the pump control building and incorporating noise-attenuating treatments as necessary to reduce exterior noise levels from interior noise sources, long-term operations of the Project could range from approximately 31 dB for the VFD motor and pump at a distance of 3 feet, to approximately 55 dB for short-term sources such as the closing of a ball valve, switch, or other equipment associated with the system (Fullerton 2014). The pump control building would be expected to provide between 15 and 30 dBA interior-to-exterior noise-level reduction (Caltrans 2020a); with a resulting exterior noise source level below 40 dBA L_{dn} at a distance of 3 feet from the building. Therefore, the Project operational noise levels would be less than the 60 dBA L_{dn} for residential outdoor activity areas, would be below exterior ambient noise levels and would not be anticipated to increase ambient noise levels in the Project vicinity by the Scotts Valley General Plan threshold of 5 dBA L_{dn}.. Therefore, Project operation would have a less-than-significant impact related to the generation of a substantial permanent increase in ambient noise levels in excess of applicable standards.

Long-Term Off-Site Traffic

Long-term operation of the Project would result in a nominal amount of additional traffic on the roadway network, as it is expected to consist primarily of maintenance activities. Routine maintenance of the facility is expected to consist of approximately five weekly visits to the site by SVWD personnel in small trucks to check on the facility's operations and perform on-going maintenance activities. There may also be the need for a "Vactor" truck or other maintenance equipment to access the site, however those operations would be infrequent and typically short in duration.Due to the limited number of trips associated with the Project and the anticipated duration of maintenance activities, the Project would not result in a noise level of 60 dBA Ldn. And as previously discussed, the Project would need to result in a doubling of roadway traffic volumes for there to be a significant impact associated with traffic noise. Therefore, the Project's operational traffic would have a less-than-significant impact related to the generation of a substantial permanent increase in ambient noise levels in excess of applicable standards.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Groundborne noise and vibration sources are anticipated to include a borehole drill rig and heavy equipment (e.g., excavator, tractors, vibratory roller, etc.). Groundborne vibration impacts were qualitatively assessed based on existing reference documentation (e.g., vibration levels produced by specific construction equipment operations), through the application of California Department of Transportation (Caltrans) methodology outlined within the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020) and the relative distance to potentially sensitive receptors from a given vibration source. Representative groundborne vibration levels for various types of construction equipment, developed by FTA, are summarized in Table 13.

Table 13. Representative Vibration Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)[1,2]	Approximate Lv (VdB) at 25 feet[3]
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Heavy-Duty Trucks (Loaded)	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: FTA 2018, Caltrans 2020b.
Notes:
1 Where PPV is the peak particle velocity.
2 Vibration levels can be approximated at other locations and distances using the above reference levels and the following equation: $PPVequip = PPVref (25/D)^{1.5}$ (in/sec); where "PPV ref" is the given value in the above table, "D" is the distance for the equipment to the new receiver in feet.
3 Where Lv is the RMS velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.

Use of a vibratory roller during the paving portions of well installation would produce vibration levels exceeding the Caltrans threshold of 0.3 in/sec PPV at distances less than 15 feet from the vibratory roller. Aside from the vibratory roller, the borehole drill rig and heavy equipment would produce vibration levels exceeding the Caltrans 0.3 in/sec PPV threshold at distances less than 9 feet. Based on the proposed site plan and distances to nearby sensitive receptors, it is unlikely that Project construction activities using heavy construction equipment would occur within 15 feet of existing sensitive receptors, nor would the borehole drill rig operations occur within 9 feet of existing sensitive receptors. As such, Project construction would not generate significant groundborne noise and vibration levels. Therefore, the Project would have a less-than-significant impact related to generation of groundborne noise and vibration.

c) ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. During the noise monitoring survey, no aircraft overflights were observed. The Project area is located approximately 6.3 miles east of the private Bonny Doon Village Airpark and 14.5 miles northwest of the Watsonville Municipal Airport. The Project site is not located within any currently adopted 60 or 65 dB CNEL/L_{dn} airport noise contours. As such, noise associated with existing and future aircraft operations in the area is not a substantial contributor to the ambient noise environment and would not result in the exposure of people to excessive aviation/aircraft noise levels. Therefore, the Project would have no impact related to exposure of people to excessive aviation noise levels.

3.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting

The City of Scotts Valley is within Santa Cruz County, which is the 25th most populous county in the State of California. The City contains approximately 4% of the population and housing units in Santa Cruz County. In 2020, the City had a population of 11,693 and Santa Cruz County as a whole had a population of 271,233. According to regional growth forecasts by AMBAG (AMBAG 2022), the City's population is projected to grow to 12,010 in 2045, which would be an average annual growth rate of 0.1%. The City's population growth is expected to grow at a slower rate than the County as a whole, which is projected to grow to 294,967 in 2045—an average annual growth rate of 0.4%.

The City had 4,739 housing units in 2020, while the County had 106,135 housing units. In 2045, the City is projected to have 4,930 housing units (an increase of approximately 0.2% per year) and the County is projected to have 113,797 housing units (an increase of approximately 0.3% per year) (AMBAG 2022).

In 2020, the City had 10,109 jobs, compared to 140,002 in the County as a whole. In 2045, AMBAG projects that the City will have 10,797 jobs and the County will have 153,261 jobs, representing an approximate average annual growth rate of 0.3% and 0.4%, respectively (AMBAG 2022).

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less-than-Significant Impact. The Project would not include the construction of new homes or businesses or extend new roads or other infrastructure into undeveloped areas. The Project would support the SVWD's ability to meet existing customer water demand and regional water supply and drought resiliency planning efforts. Given the modest level of construction required for the Project, it is reasonable to anticipate that workforce requirements for construction could be met through the local labor force within the region. Long-term operation and maintenance of the Project would be performed by existing SVWD staff and would not generate new employment. Therefore, the Project would have a less-than-significant impact on population growth.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site does not contain existing housing, so it would not displace existing people or housing or necessitate the construction of replacement housing. Therefore, the Project would have no impact related to displacement of existing people or housing.

3.15 Public Services

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XV. PUBLIC SERVICES – Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Setting

Fire Protection

The Scotts Valley Fire Protection District (SVFPD) provides fire protection services, ranging from basic life support to vegetation management, to the City and its surrounding unincorporated areas. The SVFPD serves nearly 20,000 residents within a 24-square-mile area. The SVFPD operates two fire stations, both within the Scotts Valley city limits. Station 1 is located at 7 Erba Lane (approximately 0.8 miles southwest of the Project site), and Station 2 is located at 251 Glenwood Drive (approximately 0.7 miles northeast of the Project site). The SVFPD has 28 full-time employees, one part-time, and 7 paid-call firefighters, who provide a variety of services which include fire suppression, emergency medical services, administration, technical rescue, hazardous materials mitigation, public education, fire investigation, and fire prevention. Daily emergency response consists of seven firefighters and one Battalion Chief. The SVFPD also has mutual aid agreements with neighboring fire suppression organizations (Santa Cruz LAFCO 2021b; SVFPD 2023). From 2015 to 2020, the SVFPD responded to approximately 13,000 calls, with an annual call average of 2,122 calls per year, and an average response time of approximately 5 minutes (Santa Cruz LAFCO 2021b).

Police Protection

The Scotts Valley Police Department (SVPD) provides police protection services to the City and is headquartered at One Civic Center Drive, approximately 0.7 miles southwest of the Project site. Under the Office of the Police Chief, the department is organized into two divisions: Operations and Administrative Services. Operations encompass uniformed patrol services, whereas the Administrative Services division is comprised of the Investigation Unit and Communications/Records. The department employs crime prevention strategies that include community awareness and education, proactive targeted enforcement of problem areas, and community-oriented policing (Santa Cruz LAFCO 2021a). In 2022, the SVPD's dispatch center handled 3,488 emergency calls. And had an average response time of 2.8 minutes (SVPD 2022).

Schools

The Scotts Valley Unified School District (SVUSD) operates the public school system within City. The SVUSD administers two elementary schools (Vine Hill Elementary and Brook Knoll Elementary), Scotts Valley Middle School, and Scotts Valley High School. Total SVUSD enrollment for the 2022/2023 academic year was 2,644 students (CDE 2023). Additionally, there are students that reside in the City of Scotts Valley who attend private schools, such as Baymonte Christian School, Montessori Scotts Valley, and Pacific Sands Academy.

Parks

The City of Scotts Valley Parks and Recreation Department provides parks, recreation facilities, and recreation programming for the community. The Parks and Recreation Department maintains seven parks and recreational facilities which include large parks with playgrounds, barbeque areas and athletic fields, smaller neighborhood parks, community and senior centers, skate parks, dog parks, tennis courts, and a 49-acre open space preserve with a hiking trails (SVPRD 2023). The closest park to the Project site is MacDorsa Park, located approximately 0.6 miles to the southwest.

Other Public Facilities

The Santa Cruz Public Libraries District provides library services throughout the County through a network of 10 neighborhood library branches is governed by a Joint Powers Authority that includes the County of Santa Cruz and cities of Santa Cruz, Capitola, and Scotts Valley (SCPL 2023). The Scotts Valley Branch Library is located at 251 Kings Village Road, approximately 1.1 miles southwest of the Project site.

a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: fire protection, police protection, schools, parks, or other public facilities?***

No Impact. As discussed in Section 3.14, Population and Housing, the Project would not result in direct or indirect population growth that would lead to an increased demand for public services including fire protection, police protection, schools, parks, or other public facilities. As such, the Project would not require the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Therefore, the Project would have no impact on public services.

3.16 Recreation

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

As described above, the City of Scotts Valley Parks and Recreation Department provides parks, recreation facilities, and recreation programming for the community. The Parks and Recreation Department maintains seven parks and recreational facilities which include large parks with playgrounds, barbeque areas and athletic fields, smaller neighborhood parks, community and senior centers, skate parks, dog parks, tennis courts, and a 49-acre open space preserve with a hiking trails (SVPRD 2023). The closest park to the Project site is MacDorsa Park, located approximately 0.6 miles to the southwest.

a) ***Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

and

b) ***Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?***

No Impact. The Project would consist of a new groundwater well facility and would not include recreational facilities. As discussed in Section 3.14, Population and Housing, the Project would not result in direct or indirect population growth that would lead to increased use of parks or recreational facilities, or require the construction or expansion of recreational facilities. Therefore, the Project would have no impact on recreation.

3.17 Transportation

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

Setting

Roadway Network

The roadway network in the City consists of arterial, collector, and local roadways, which are classified as follows:

- **Arterial.** Serves trips of moderate length. Some emphasis on land access. Often carries local bus routes and provides intra-community continuity but does not typically access residential neighborhoods. Existing average daily traffic (ADT) range of 6,500 to 45,000.
- **Collector.** Provides both land access and traffic circulation. Accesses neighborhoods and communities, collecting and attributing traffic between residential neighborhoods and the arterial streets. Existing ADT range of 800 to 4,500.
- **Local.** Primarily permits direct land access and connections to the higher-order streets. Lowest level of mobility. Through traffic is deliberately discouraged. Existing ADT less than 2,000.

The roadway network that would be used to access the Project site primarily includes Scotts Valley Drive, Mount Hermon Road, and Highway 17. Scotts Valley Drive is a minor arterial roadway which provides direct access to the Project site. Mount Hermon Road is a principal arterial roadway that intersects with Scotts Valley Drive approximately 1.25 miles southwest of the Project site. Highway 17, a freeway under Caltrans jurisdiction, bisects the City and provides regional access to the Project site. Grace Way, which runs behind the Project site, is a local roadway which provides access to residential land uses and would not be expected to be used for Project site access (City of Scotts Valley 2021a).

Transit Facilities

The City is served by three Santa Cruz METRO bus routes, all of which pass by the Project site. Routes 35 and 35E connect the City of Scotts Valley with the City of Santa Cruz and the San Lorenzo Valley. The Highway 17 Express connects downtown Santa Cruz and Scotts Valley with the Diridon Caltrain station and downtown San Jose. Several bus stops are located along Scotts Valley Drive. The Cavallaro Transit Center, located approximately 1 mile southwest of the Project site, serves as the main bus transfer point in the City and provides all-day parking for those using transit for their daily commutes. Private bus transportation also connects the City with the Silicon Valley locations of several large companies (City of Scotts Valley 2021a; Santa Cruz METRO 2023).

Bicycle Facilities

There are currently three types of bicycle facilities in the City: Class I shared-use paths, Class II bicycle lanes, and Class III bicycle routes. Scotts Valley Drive includes Class II bicycle lanes, including along the Project site frontage. The other main arterial street in Scotts Valley, Mount Hermon Road, also has Class II bicycle lanes. The Class II bicycle lanes on these two arterials provide access to most of the major destinations in the City (City of Scotts Valley 2021a).

Pedestrian Facilities

Scotts Valley Drive has continuous sidewalks on both sides of the street from Mount Hermon Road to just past Glenwood Drive, including along the Project site frontage. There are several long gaps between marked crosswalks on Scotts Valley Drive, which makes pedestrian access more challenging along the corridors (City of Scotts Valley 2021a).

a) ***Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

   Less-than-Significant Impact. Project construction would temporarily impact localized traffic flows on the roads leading to the Project site, including Scotts Valley Drive, Mount Hermon Road, and Highway 17. Construction-related vehicle trips would include construction workers traveling to and from the Project site, haul trucks, and other trucks associated with equipment and material deliveries. Construction of the utility connections would require partial road closures or access limitations in public rights-of-way of Scotts Valley Drive on a temporary and periodic basis during the construction period. An encroachment permit would need to be obtained from the City for construction in public roadways. While the City of Scotts Valley specifies the need for a traffic control plan only if required by the Public Works Director/City Engineer, other requirements of encroachment permits include conducting all street improvements in accordance with the City of Scotts Valley Standard Details and Specification (City of Scotts Valley 2017), which includes policies for addressing lane closures or any form of traffic diversions, including requirements to provide a 6-foot-wide lane for pedestrian and bicycle traffic.

The Project would not increase roadway capacity, generate a permanent increase in traffic, or change traffic patterns that could cause an impact to the circulation system including transit, roadway, bicycle, and pedestrian facilities and therefore would not conflict with adopted policies addressing the circulation system. Once Project construction is complete, operations would entail a minimal increase in on-road vehicle trips associated with routine inspection and maintenance of the new facilities by City staff. Due to the nominal increase in trips generated during operations and maintenance, the roadway operations in the area would not substantially differ from existing conditions. Therefore, the Project would not conflict with adopted policies, plans, or programs addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities and the impact would be less than significant.

b) *Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?*

Less-than-Significant Impact. CEQA Guidelines Section 15064.3 states that vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts and describes criteria for analyzing transportation impacts, including: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The Project would be categorized under (3), qualitative analysis, as this Subdivision (b)(3) recognizes that lead agencies may not be able to quantitatively estimate VMT for every project type. Furthermore, the Governor's Office of Planning and Research (OPR) has identified a screening threshold that states that projects that generate fewer than 110 daily trips generally may be assumed to cause a less-than-significant impact (OPR 2018).

Construction activities would result in a temporary increase in vehicle trips to the project site during construction by workers and equipment. The Project would not generate new residents or businesses that would result in an increase in VMT. Project operation would involve approximately one trip per day to the Project site for operational and maintenance activities, which is below the OPR-recommended screening threshold of 110 daily trips and would not appreciably increase VMT. Therefore, the Project would have a less-than-significant impact on VMT.

c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

No Impact. The Project would retain the existing Project site access from Scotts Valley Drive and would not involve the construction of additional driveways or modifications to the existing driveway. Improvements within the public right-of-way of Scotts Valley Drive would consist of connections to existing utilities, which would be below ground with the surface restored to be similar to existing conditions after construction. No other modifications to public roadways are proposed, and the Project would not include the creation of sharp curves or dangerous intersections, or introduce incompatible uses. Therefore, the Project would have no impact related to increased hazards due to a geometric design feature or incompatible uses.

d) *Would the project result in inadequate emergency access?*

Less-than-Significant Impact. The Project would not include changes to the existing street system that could hinder emergency access. Construction and staging areas would not obstruct Project site egress or ingress, which is from a single existing driveway on Scotts Valley Drive. As previously discussed, construction of utility improvements would require partial road closures or access limitations in the public right-of-way of Scotts Valley Drive on a temporary and periodic basis during the construction period. An encroachment permit from the City would be required for work done within the public right-of-way, which would include provisions for addressing lane closures or traffic diversions in accordance with the City of Scotts Valley Standard Details and Specification (City of Scotts Valley 2017). Implementation of these requirements would ensure that access for emergency vehicles would be maintained during construction. During operation, the Project would have limited operational traffic and vehicle trips associated with routine maintenance of the facility which would not affect emergency access. Therefore, the Project would have a less-than-significant impact on emergency access.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Setting

Assembly Bill 52 requires that California lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if so requested by the tribe. No Native American tribe has contacted SVWD and requested consultation related to SVWD properties or projects.

Assembly Bill 52 also specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. Defined in Section 21074(a) of the Public Resources Code, a tribal cultural resource is a site feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American tribe and is either listed in or eligible for listing in the California Register of Historical Resources or a local historic register, or the lead agency, at its discretion, chooses to treat the resource as a tribal cultural resource.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

and

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less-than-Significant Impact with Mitigation Incorporated. As described in Section 3.5, Cultural Resources, the existing structure on the Project site is neither listed in nor eligible for the NRHP, CRHR, CHL, or local register of historic resources. Based on the CHRIS records search conducted for the Project site (see Appendix C), the Project area contains no previously recorded archaeological resources or tribal cultural resources. Similarly, the search of the NAHC Sacred Lands File and outreach to locally affiliated Native American contacts did not identify any known Native American resources in the Project area. Furthermore, the site is within a developed commercial and residential area of Scotts Valley. As there are no known tribal cultural resources identified on the Project site, the Project would not cause a substantial adverse change in the significance of a known tribal cultural resource listed in or eligible for listing in the NRHP, CRHR, CHL, or a local register.

Given the context of the Project area within a developed commercial and residential area of Scotts Valley and the previous disturbance on the site, there is a low potential for encountering unrecorded tribal cultural resources. In the event that a tribal cultural resource is discovered on the Project site during ground-disturbing construction activities, MM CUL-1 and MM CUL-2 described in Section 3.5 would reduce potential impacts to a less-than-significant level. Therefore, with incorporation of MM CUL-1 and MM CUL-2, the Project would have a less-than-significant impact related to unanticipated discoveries of tribal cultural resources.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Setting

Water

As previously described, the SVWD provides water service to most of the incorporated area of the City and some unincorporated areas north of the City, encompassing an area of approximately 6 square miles (Santa Cruz LAFCO 2021c). For its potable water supply, the SVWD relies solely on groundwater from the Santa Margarita Groundwater Basin, which it extracts from six groundwater wells with a maximum extraction capacity of 1,400 gpm that vary from 250 feet to 1,750 feet deep (Santa Cruz LAFCO 2021c; SVWD 2023). Three water treatment plants with a combined capacity of nearly 2.06 million gallons per day treat the groundwater to meet federal and state potable water quality standards (SVWD 2023).

Wastewater

Sanitary sewer service in the City is provided by the City of Scotts Valley Department of Public Works, Wastewater Division. The sanitary sewer collection system is made up of approximately 40 miles of pipeline, as well as seven lift stations (City of Scotts Valley 2021b). All wastewater is conveyed to and treated at the Scotts Valley Water Reclamation Facility, located at 700 Lundy Lane, approximately 1.4 miles southwest of the Project site. The Water Reclamation Facility provides wastewater treatment services as well as recycled water for landscape irrigation and other uses. The plant's current capacity is 1.5 million gallons per day for wastewater treatment and 1 million gallon per day for recycled water processing (Santa Cruz LAFCO 2021a). In 2021, average daily dry weather flow was 0.621 million gallons per day (City of Scotts Valley 2021b).

Stormwater

The City storm drain system collects storm water runoff from City streets along gutters and through underground pipes to discharge into waterways. The system is designed for the control of flooding and does not provide any treatment to stormwater runoff (City of Scotts Valley 2021a). Most of the storm drain systems are short and drain directly to the Carbonera or Camp Evers Creek or tributaries to the creeks. Longer systems run below Scotts Valley Drive and Mount Hermon Road (City of Scotts Valley 2018).

Electric Power, Natural Gas, and Telecommunications

PG&E provides electricity and natural gas services to the City. Eight telecommunication service providers serve the City, including AT&T, Xfinity, Sonic Telecom, HughesNet, Viasat, Razzo Link, Cruzio Internet, and Etheric Networks.

Solid Waste

GreenWaste Recovery provides residential and commercial waste collection services to the City. Solid waste is transported to either the Buena Vista Sanitary Landfill, which is operated by the County of Santa Cruz, or the Ben Lomond Transfer Station, where it is then delivered to the Monterey Peninsula Landfill, which is operated by the Monterey Regional Waste Management District. The Buena Vista Sanitary Landfill, located west of the City of Watsonville, is permitted to receive 838 tons of solid waste per day and has a maximum capacity of 7,537,700 cubic yards of solid waste, with approximately 1,766,005 cubic yards of remaining capacity as of the most recent capacity evaluation in 2020. The Buena Vista Sanitary Landfill is expected to reach capacity in 2031 (CalRecycle 2023a). The Monterey Peninsula Landfill, located in Marina, is permitted to receive 3,500 tons of solid waste per day and has a maximum capacity of 49,700,000 cubic yards of solid waste, with approximately 48,560,000 cubic yards of remaining capacity as of the most recent capacity evaluation in 2004. The Monterey Peninsula Landfill is expected to reach capacity in 2107 (CalRecycle 2023b).

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-than-Significant with Mitigation Incorporated. The Project would be connected to existing utility infrastructure in the vicinity of the Project site and would not require the relocation or construction of new or expanded utilities. The Project would not generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment that would necessitate new or expanded wastewater facilities. As discussed in Section 3.10, Hydrology and Water Quality, the Project would generally preserve existing drainage patterns on site and would not result in an increase in the site's existing impervious surface area, and would not require new or expanded stormwater drainage facilities. Groundwater generated during initial well development would be diverted to the on-site sanitary sewer connection and discharged in accordance with a sewer discharge permit from the City of Scotts Valley. Discharge of final development and testing groundwater would be diverted to a stormwater drain inlet on the west side of Scotts Valley Drive and just east of the northeast corner of the property. All water discharged to the storm drain would comply with the requirements of the SVWD's NPDES Permit for Drinking Water System Discharges to Waters of the United States (Order WQ 2014-0194-DWQ, General Order No. CAG140001) issued by the SWRCB.

The Project would be served by existing PG&E electric power infrastructure in the vicinity of the Project site and energy would be supplied from the regional electricity grid, and no new or expanded electric power facilities would be needed. The Project would not involve any components requiring natural gas service. The Project would require telecommunications to operate the groundwater well and would be connected to existing infrastructure in the vicinity of the Project site.

The Project itself is construction and operation of a new water facility, in the form of a groundwater production well and associated facilities at the Project site, including installation of pipelines to connect the new well to the SVWD's water distribution system and sanitary sewer system. The potential environmental impacts associated with construction of the proposed utilities are evaluated in this Initial Study. This Initial Study has determined that the Project would have potentially significant impacts related to biological resources, cultural resources, geology and soils, hydrology and water quality, and tribal cultural resources, all of which would be reduced to a less-than-significant level with implementation of the mitigation measures identified in this Initial Study. Therefore, with incorporation of mitigation measures, the Project would have less-than-significant impacts related to the construction of new or expanded water facilities.

b) ***Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

No Impact. The Project would not result in direct or indirect population growth that would lead to an increased demand for water supplies; rather, the Project itself would provide water supplies to provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand. Therefore, the Project would have no impact related to having sufficient water supply to serve the Project and cumulative development.

c) ***Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

Less-than-Significant Impact. Groundwater generated during initial well development would be discharged to the local sanitary sewer. The discharge of groundwater to the sanitary sewer system and subsequent conveyance to the Scotts Valley Water Reclamation Facility would be periodic and would not alter existing wastewater characteristics or result in the need for new treatment methods. Therefore, the Project would have a less-than-significant impact related to wastewater treatment capacity.

d) ***Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

Less-than-Significant Impact. As described above, landfills serving the Project site both have remaining capacity; the Buena Vista Landfill is expected to have capacity until 2031, and the Monterey Peninsula Landfill is expected to have capacity until 2107. Thus, adequate landfill capacity is available during the timeframe of the Project and beyond.

Construction activities would temporarily generate solid waste, including demolition debris, spoils, asphalt, and other construction waste. Earthen spoils excavated during well facility construction and pipeline installation may be used as backfill around the facilities or, if they cannot be accommodated on site or used as fill for other construction projects in the area, may be hauled off-site for recycling or disposal. It is expected that the disposal of construction materials would generally be limited, and the majority of construction waste would be recycled and reused due to the cost of disposing of such materials. Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the Project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at landfills accepting such waste. Once operational, the Project would include unmanned facilities and would result in the generation of minor amounts of solid waste. Therefore, the Project would have a less-than-significant impact on landfill capacity.

e) ***Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

Less-than-Significant Impact. The Project would be required to comply with all applicable regulations related to the reduction of solid waste entering landfills, including the California Integrated Waste Management Act (AB 939), potentially new more aggressive statewide resource recovery goals (i.e., AB 341 policy goal of 75% reduction), as well as the City's plans, policies, and programs related to recycling/diversion and disposal of solid waste. As previously noted, during construction, all wastes would be expected to be recycled to the maximum extent possible, in accordance with applicable regulations. All nonhazardous solid waste generated from the Project once operational would be recycled, with a goal of 75%, in compliance with the Integrated Waste Management Act. Unsalvageable materials generated from the Project would be disposed of at authorized sites in accordance with all applicable federal, state, and local statutes and regulations. Therefore, the Project would have a less-than-significant impact related to compliance with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.20 Wildfire

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Setting

In accordance with state law, CAL FIRE has developed fire hazard severity zone (FHSZ) maps that identify relative wildfire hazard potential over the long term (i.e., 30 to 50 years) for all areas of the state. The FHSZs reflect areas that have similar burn probabilities and fire behavior characteristics and are split into three classes: moderate, high, and very high. CAL FIRE has adopted FHSZ maps for the SRA (CAL FIRE 2007a), and draft maps for the LRA (CAL FIRE 2007b). CAL FIRE released updated FHSZ maps for the SRA in November 2022, which have not yet been adopted, but reflect the latest fire science, data, and mapping techniques.

The Project site is located within a LRA within the service area of the Scotts Valley Fire District. The Project site is not within a wildland area, which includes forests, grasses, and shrublands where the land cover is dominated by vegetation. In non-wildland areas, wildfire hazard arises due to ember transport from adjacent wildlands and associated fire spread through urban vegetation and structures. The unincorporated area surrounding the City is within a SRA and is classified as a moderate FHSZ in the 2007 FHSZ maps (CAL FIRE 2007a). In the 2022 FHSZ maps, the surrounding unincorporated area is classified primarily as a high FHSZ, with some moderate FHSZ located to the south of the City (CAL FIRE 2022). No very high FHSZs within the SRA are located near the Project site (CAL FIRE 2007a, 2022), and no very high FHSZs are located within the LRA in Santa Cruz County (CAL FIRE 2007b).

a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

and

b) *Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

and

c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

and

d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

No Impact. The Project would include construction and operation of groundwater well infrastructure on a developed site within a commercial area and would not exacerbate wildlife hazards. There are no wildland areas adjacent to the Project site that could pose a wildfire hazard to the Project site. Therefore, the Project would have no impact related to wildfire.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less-Than-Significant Impact With Mitigation Incorporated. The Project would not substantially reduce habitat of fish or wildlife species or other special-status species, as the Project location constitutes a built environment. There are no sensitive habitats or wetlands located on the Project site, and no special-status species are known to or have the potential to occupy the site. However, protected birds could potentially nest in trees near the Project site and could be disturbed during construction activities; implementation of MM BIO-1, which requires preconstruction nesting bird surveys and other measures if demolition or construction occurs during the typical avian nesting season (see Section 3.4, Biological Resources), would ensure that impacts to nesting protected birds would be reduced to a less-than-significant level.

The Proposed Project would not eliminate important examples of the major periods of California history or prehistory. The Project would not result in impacts to built historical resources or known archaeological or tribal cultural resources, as none are located on or near the Project site. Although it is not anticipated that new archaeological resources or tribal cultural resources would be encountered during Project construction, MM CUL-1 and MM CUL-2 would be implemented with the Project to ensure that impacts related to inadvertent discovery of cultural resources would be reduced to a less-than-significant level.

Therefore, with incorporated of mitigation measures identified herein to protect biological and cultural resources, the Project would not substantially degrade the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

b) ***Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)***

Less-Than-Significant Impact. Cumulative impacts could occur if past, present, and reasonably foreseeable future projects were to contribute incremental impacts on the same resources as the Project or result in impacts that coincide with Project impacts during construction or operation. According to the City of Scotts Valley Planning Department list of current Citywide projects, there are a number of projects that are under construction, approved, or under review in the City, some of which are in the general Project vicinity along or off of Scotts Valley Drive. Current projects tend to be smaller-scale infill development, as the City's urban area is already largely built out. It is possible that construction of some of the City's current projects could overlap with construction of the Project.

The impacts of the Project on existing localized environmental conditions are detailed throughout this Initial Study, and the Project would not combine with other development projects in the vicinity to result in cumulative impacts related to localized issues including aesthetics, biological resources, cultural resources, geology and soils, and noise.

As indicated in Section 3.3, Air Quality, the Project would not result in cumulatively considerable air quality impact as construction and operational emissions associated with the Project would not exceed the MBARD significance thresholds. As indicated in Section 3.8, Greenhouse Gas Emissions, the Project would not result in significant impacts related to GHG emissions and, therefore, the Project would not result in a cumulatively considerable contribution to global climate change. Additionally, the Project would generate a negligible increase in permanent (operational) vehicle trips or vehicle miles traveled and, therefore, would not result in a cumulatively considerable contribution to transportation impacts. Given the foregoing, the Project's cumulative impacts would be less than significant.

c) ***Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?***

Less-Than-Significant Impact With Mitigation Incorporated. Implementation of the Proposed Project would not directly or indirectly cause substantial adverse effects on human beings, including those related to air quality, hazardous materials, emergency response, proximity to airport activities, noise, or transportation hazards. Implementation of the Project would not result in any impacts that are significant and unavoidable or cumulatively considerable. The implementation of the mitigation measures identified herein would reduce all potentially significant impacts to a less-than-significant level. Therefore, the Project would not result in impacts that would cause substantial adverse effects on human beings, either directly or indirectly.

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4.2 List of Preparers

Scotts Valley Water District

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Appendix A
California Emissions Estimator Model Detailed Report

Grace Way Well Regional (2025) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Grace Way Well Regional (2025)
Construction Start Date	3/25/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	43.2
Location	37.057510416776694, -122.01139893007289
County	Santa Cruz
City	Scotts Valley
Air District	Monterey Bay ARD
Air Basin	North Central Coast
TAZ	3122
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.14

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

General Light Industry	1.00	1000sqft	0.50	1,000	150	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-12	Sweep Paved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.48	2.82	26.7	31.0	0.06	1.11	5.38	5.91	1.02	2.58	3.08	—	6,209	6,209	0.32	0.23	2.52	6,288
Mit.	3.48	2.82	26.7	31.0	0.06	1.11	2.14	2.67	1.02	1.02	1.51	—	6,209	6,209	0.32	0.23	2.52	6,288
% Reduced	—	—	—	—	—	—	60%	55%	—	61%	51%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.91	4.09	13.1	16.2	0.03	0.51	0.10	0.58	0.47	0.03	0.49	—	2,488	2,488	0.10	0.04	0.02	2,499
Mit.	1.91	4.09	13.1	16.2	0.03	0.51	0.10	0.58	0.47	0.03	0.49	—	2,488	2,488	0.10	0.04	0.02	2,499
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.52	0.44	3.91	4.80	0.01	0.17	0.13	0.29	0.15	0.05	0.20	—	815	815	0.04	0.02	0.09	821
Mit.	0.52	0.44	3.91	4.80	0.01	0.17	0.07	0.24	0.15	0.02	0.18	—	815	815	0.04	0.02	0.09	821
% Reduced	—	—	—	—	—	—	42%	18%	—	49%	11%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.08	0.71	0.88	< 0.005	0.03	0.02	0.05	0.03	0.01	0.04	—	135	135	0.01	< 0.005	0.02	136
Mit.	0.10	0.08	0.71	0.88	< 0.005	0.03	0.01	0.04	0.03	< 0.005	0.03	—	135	135	0.01	< 0.005	0.02	136
% Reduced	—	—	—	—	—	—	42%	18%	—	49%	11%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	82.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Mit.	—	—	—	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	82.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Mit.	—	—	—	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	3.48	2.82	26.7	31.0	0.06	1.11	5.38	5.91	1.02	2.58	3.08	—	6,209	6,209	0.32	0.23	2.52	6,288
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.91	1.58	13.1	16.2	0.03	0.51	0.10	0.58	0.47	0.03	0.49	—	2,488	2,488	0.10	0.04	0.02	2,499
2025	0.38	4.09	3.21	4.50	0.01	0.10	0.09	0.15	0.09	0.02	0.10	—	736	736	0.03	0.04	0.02	740
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.52	0.44	3.91	4.80	0.01	0.17	0.13	0.29	0.15	0.05	0.20	—	815	815	0.04	0.02	0.09	821
2025	0.01	0.06	0.06	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	< 0.005	14.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.10	0.08	0.71	0.88	< 0.005	0.03	0.02	0.05	0.03	0.01	0.04	—	135	135	0.01	< 0.005	0.02	136
2025	< 0.005	0.01	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.43

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.48	2.82	26.7	31.0	0.06	1.11	2.14	2.67	1.02	1.02	1.51	—	6,209	6,209	0.32	0.23	2.52	6,288
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.91	1.58	13.1	16.2	0.03	0.51	0.10	0.58	0.47	0.03	0.49	—	2,488	2,488	0.10	0.04	0.02	2,499
2025	0.38	4.09	3.21	4.50	0.01	0.10	0.09	0.15	0.09	0.02	0.10	—	736	736	0.03	0.04	0.02	740
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.52	0.44	3.91	4.80	0.01	0.17	0.07	0.24	0.15	0.02	0.18	—	815	815	0.04	0.02	0.09	821
2025	0.01	0.06	0.06	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	< 0.005	14.7

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.10	0.08	0.71	0.88	< 0.005	0.03	0.01	0.04	0.03	< 0.005	0.03	—	135	135	0.01	< 0.005	0.02	136
2025	< 0.005	0.01	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.43

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.65	0.61	1.61	1.87	< 0.005	0.08	0.01	0.10	0.08	< 0.005	0.09	0.67	434	435	0.10	0.01	0.31	439
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.64	0.60	1.61	1.83	< 0.005	0.08	0.01	0.10	0.08	< 0.005	0.09	0.67	433	434	0.10	0.01	0.26	438
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.11	0.22	0.31	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	0.67	177	177	0.09	< 0.005	0.28	181
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.04	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	29.3	29.4	0.01	< 0.005	0.05	30.0
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	550	150	—	—	82.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	137	137	550	150	—	—	82.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.05	11.7
Area	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	129	129	0.02	< 0.005	—	130
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Stationary	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.65	0.61	1.61	1.87	< 0.005	0.08	0.01	0.10	0.08	< 0.005	0.09	0.67	434	435	0.10	0.01	0.31	439
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.2
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	129	129	0.02	< 0.005	—	130
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Stationary	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295

Total	0.64	0.60	1.61	1.83	< 0.005	0.08	0.01	0.10	0.08	< 0.005	0.09	0.67	433	434	0.10	0.01	0.26	438
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.90	7.90	< 0.005	< 0.005	0.02	8.01
Area	0.01	0.03	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	129	129	0.02	< 0.005	—	130
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Stationary	0.09	0.08	0.22	0.24	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	40.3	40.3	< 0.005	< 0.005	0.00	40.4
Total	0.10	0.11	0.22	0.31	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	0.67	177	177	0.09	< 0.005	0.28	181
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	21.3	21.3	< 0.005	< 0.005	—	21.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	0.39
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Stationary	0.02	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.66	6.66	< 0.005	< 0.005	0.00	6.69
Total	0.02	0.02	0.04	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	29.3	29.4	0.01	< 0.005	0.05	30.0

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.05	11.7
Area	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	129	129	0.02	< 0.005	—	130
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Stationary	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.65	0.61	1.61	1.87	< 0.005	0.08	0.01	0.10	0.08	< 0.005	0.09	0.67	434	435	0.10	0.01	0.31	439
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.2
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	129	129	0.02	< 0.005	—	130
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Stationary	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.64	0.60	1.61	1.83	< 0.005	0.08	0.01	0.10	0.08	< 0.005	0.09	0.67	433	434	0.10	0.01	0.26	438
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.90	7.90	< 0.005	< 0.005	0.02	8.01
Area	0.01	0.03	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	129	129	0.02	< 0.005	—	130
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26

Stationar	0.09	0.08	0.22	0.24	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	40.3	40.3	< 0.005	< 0.005	0.00	40.4
Total	0.10	0.11	0.22	0.31	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	0.67	177	177	0.09	< 0.005	0.28	181
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	21.3	21.3	< 0.005	< 0.005	—	21.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	0.39
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Stationary	0.02	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.66	6.66	< 0.005	< 0.005	0.00	6.69
Total	0.02	0.02	0.04	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	29.3	29.4	0.01	< 0.005	0.05	30.0

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.30	5.08	0.01	0.23	—	0.23	0.21	—	0.21	—	785	785	0.03	0.01	—	788
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.8	10.8	< 0.005	< 0.005	—	10.8
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.78	1.78	< 0.005	< 0.005	—	1.79
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.02	< 0.005	0.29	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	166	166	0.02	0.03	0.01	175
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.28	2.28	< 0.005	< 0.005	< 0.005	2.39

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.40

3.2. Demolition (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.30	5.08	0.01	0.23	—	0.23	0.21	—	0.21	—	785	785	0.03	0.01	—	788
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.8	10.8	< 0.005	< 0.005	—	10.8
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.78	1.78	< 0.005	< 0.005	—	1.79

Demolitio	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.02	< 0.005	0.29	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	166	166	0.02	0.03	0.01	175
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.28	2.28	< 0.005	< 0.005	< 0.005	2.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.40

3.3. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.35	0.29	2.56	3.44	0.01	0.09	—	0.09	0.08	—	0.08	—	487	487	0.02	< 0.005	—	489
Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	40.0	40.0	< 0.005	< 0.005	—	40.2
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.63	6.63	< 0.005	< 0.005	—	6.65
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	60.2	60.2	< 0.005	< 0.005	0.27	61.3
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.02	< 0.005	0.28	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	166	166	0.02	0.03	0.30	175

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.74	4.74	< 0.005	< 0.005	0.01	4.81
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.53	3.53	< 0.005	< 0.005	< 0.005	3.70
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.7	13.7	< 0.005	< 0.005	0.01	14.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.38

3.4. Demolition (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.56	3.44	0.01	0.09	—	0.09	0.08	—	0.08	—	487	487	0.02	< 0.005	—	489
Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	40.0	40.0	< 0.005	< 0.005	—	40.2
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.63	6.63	< 0.005	< 0.005	—	6.65
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	60.2	60.2	< 0.005	< 0.005	0.27	61.3
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.02	< 0.005	0.28	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	166	166	0.02	0.03	0.30	175
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.74	4.74	< 0.005	< 0.005	0.01	4.81
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.53	3.53	< 0.005	< 0.005	< 0.005	3.70
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.7	13.7	< 0.005	< 0.005	0.01	14.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.38

3.5. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	0.50	4.60	5.56	0.01	0.24	—	0.24	0.22	—	0.22	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.5	23.5	< 0.005	< 0.005	—	23.6
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.89	3.89	< 0.005	< 0.005	—	3.90

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	60.2	60.2	< 0.005	< 0.005	0.27	61.3
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	0.50	4.60	5.56	0.01	0.24	—	0.24	0.22	—	0.22	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.5	23.5	< 0.005	< 0.005	—	23.6
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.89	3.89	< 0.005	< 0.005	—	3.90
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	60.2	60.2	< 0.005	< 0.005	0.27	61.3
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719

Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.5	23.5	< 0.005	< 0.005	—	23.5
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.89	3.89	< 0.005	< 0.005	—	3.90
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	60.2	60.2	< 0.005	< 0.005	0.27	61.3
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.5	23.5	< 0.005	< 0.005	—	23.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.89	3.89	< 0.005	< 0.005	—	3.90
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	60.2	60.2	< 0.005	< 0.005	0.27	61.3
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.29	2.74	24.7	29.8	0.05	1.09	—	1.09	1.00	—	1.00	—	4,938	4,938	0.20	0.04	—	4,955
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.44	2.94	< 0.005	0.11	—	0.11	0.10	—	0.10	—	487	487	0.02	< 0.005	—	489
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	80.6	80.6	< 0.005	< 0.005	—	80.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.53	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.2	75.2	< 0.005	< 0.005	0.34	76.6
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.10	7.10	< 0.005	< 0.005	0.01	7.22
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.24	4.24	< 0.005	< 0.005	< 0.005	4.44
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.73
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.29	2.74	24.7	29.8	0.05	1.09	—	1.09	1.00	—	1.00	—	4,938	4,938	0.20	0.04	—	4,955

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.44	2.94	< 0.005	0.11	—	0.11	0.10	—	0.10	—	487	487	0.02	< 0.005	—	489
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	80.6	80.6	< 0.005	< 0.005	—	80.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.53	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.2	75.2	< 0.005	< 0.005	0.34	76.6
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.10	45.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.10	7.10	< 0.005	< 0.005	0.01	7.22
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.24	4.24	< 0.005	< 0.005	< 0.005	4.44
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.73
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.86	1.54	13.0	15.7	0.03	0.51	—	0.51	0.47	—	0.47	—	2,388	2,388	0.10	0.02	—	2,396
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.21	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	39.3	39.3	< 0.005	< 0.005	—	39.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.50	6.50	< 0.005	< 0.005	—	6.52
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.96
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.86	1.54	13.0	15.7	0.03	0.51	—	0.51	0.47	—	0.47	—	2,388	2,388	0.10	0.02	—	2,396

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.21	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	39.3	39.3	< 0.005	< 0.005	—	39.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.50	6.50	< 0.005	< 0.005	—	6.52
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.96
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	3.28	4.30	0.01	0.12	—	0.12	0.11	—	0.11	—	665	665	0.03	0.01	—	667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.3	57.3	< 0.005	< 0.005	—	57.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.48	9.48	< 0.005	< 0.005	—	9.51
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.02	0.21	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.8	28.8	< 0.005	< 0.005	< 0.005	29.2
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.48	2.48	< 0.005	< 0.005	0.01	2.52
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	< 0.005	3.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.64
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	3.28	4.30	0.01	0.12	—	0.12	0.11	—	0.11	—	665	665	0.03	0.01	—	667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.28	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.3	57.3	< 0.005	< 0.005	—	57.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.48	9.48	< 0.005	< 0.005	—	9.51
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.21	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.8	28.8	< 0.005	< 0.005	< 0.005	29.2
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.48	2.48	< 0.005	< 0.005	0.01	2.52
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	< 0.005	3.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.64
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	3.11	4.28	0.01	0.10	—	0.10	0.09	—	0.09	—	665	665	0.03	0.01	—	667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.65	0.65	< 0.005	< 0.005	—	0.65
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	< 0.005	28.7
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.3	42.3	< 0.005	0.01	< 0.005	44.3

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.26
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	3.11	4.28	0.01	0.10	—	0.10	0.09	—	0.09	—	665	665	0.03	0.01	—	667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.65	0.65	< 0.005	< 0.005	—	0.65
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	< 0.005	28.7
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.3	42.3	< 0.005	0.01	< 0.005	44.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.26
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.42	4.39	0.01	0.17	—	0.17	0.16	—	0.16	—	661	661	0.03	0.01	—	664
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.1	18.1	< 0.005	< 0.005	—	18.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.00	3.00	< 0.005	< 0.005	—	3.01
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.42	4.39	0.01	0.17	—	0.17	0.16	—	0.16	—	661	661	0.03	0.01	—	664
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.1	18.1	< 0.005	< 0.005	—	18.2

Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.00	3.00	< 0.005	< 0.005	—	3.01
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	3.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	< 0.005	28.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.20. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	3.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architect ural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architect ural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	< 0.005	28.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.21. Trenching (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.45	6.57	0.01	0.27	—	0.27	0.25	—	0.25	—	1,000	1,000	0.04	0.01	—	1,003
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.1	41.1	< 0.005	< 0.005	—	41.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.80	6.80	< 0.005	< 0.005	—	6.82

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.37	2.37	< 0.005	< 0.005	< 0.005	2.41
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.85
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.22. Trenching (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.45	6.57	0.01	0.27	—	0.27	0.25	—	0.25	—	1,000	1,000	0.04	0.01	—	1,003
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.1	41.1	< 0.005	< 0.005	—	41.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.80	6.80	< 0.005	< 0.005	—	6.82
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.01	58.4
Vendor	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	< 0.005	45.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.37	2.37	< 0.005	< 0.005	< 0.005	2.41
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.85
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.23. Trenching (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.04	0.01	0.56	0.22	< 0.005	0.01	0.07	0.08	0.01	0.02	0.03	—	333	333	0.03	0.05	0.59	350
Hauling	0.09	0.01	1.26	0.47	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	820	820	0.08	0.13	1.48	861

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.47	5.47	< 0.005	< 0.005	< 0.005	5.74
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	14.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.91	0.91	< 0.005	< 0.005	< 0.005	0.95
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.34

3.24. Trenching (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.04	0.01	0.56	0.22	< 0.005	0.01	0.07	0.08	0.01	0.02	0.03	—	333	333	0.03	0.05	0.59	350
Hauling	0.09	0.01	1.26	0.47	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	820	820	0.08	0.13	1.48	861
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.47	5.47	< 0.005	< 0.005	< 0.005	5.74
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	14.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.91	0.91	< 0.005	< 0.005	< 0.005	0.95
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.34

3.25. Trenching (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.38	2.21	< 0.005	0.06	—	0.06	0.06	—	0.06	—	332	332	0.01	< 0.005	—	333
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.55	4.55	< 0.005	< 0.005	—	4.57
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.75	0.75	< 0.005	< 0.005	—	0.76
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.29	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.4	42.4	< 0.005	< 0.005	< 0.005	43.1
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.3	42.3	< 0.005	0.01	< 0.005	44.3
Hauling	0.02	< 0.005	0.28	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	164	164	0.02	0.03	0.01	172
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.59
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.36

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39

3.26. Trenching (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.38	2.21	< 0.005	0.06	—	0.06	0.06	—	0.06	—	332	332	0.01	< 0.005	—	333
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.55	4.55	< 0.005	< 0.005	—	4.57
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.75	0.75	< 0.005	< 0.005	—	0.76
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.29	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.4	42.4	< 0.005	< 0.005	< 0.005	43.1
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.3	42.3	< 0.005	0.01	< 0.005	44.3
Hauling	0.02	< 0.005	0.28	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	164	164	0.02	0.03	0.01	172
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.59
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.05	11.7
Total	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.05	11.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.2
Total	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Total	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.05	11.7
Total	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.05	11.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.2

Total	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Total	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	21.3	21.3	< 0.005	< 0.005	—	21.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	21.3	21.3	< 0.005	< 0.005	—	21.5

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	21.3	21.3	< 0.005	< 0.005	—	21.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	21.3	21.3	< 0.005	< 0.005	—	21.5

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Total	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Total	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Total	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Total	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	0.39

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Total	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Total	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	0.39

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generato	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.66	6.66	< 0.005	< 0.005	0.00	6.69
Total	0.02	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.66	6.66	< 0.005	< 0.005	0.00	6.69

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Total	0.63	0.57	1.61	1.77	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	294	294	0.01	< 0.005	0.00	295
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency	0.02	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.66	6.66	< 0.005	< 0.005	0.00	6.69
Total	0.02	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.66	6.66	< 0.005	< 0.005	0.00	6.69

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Mobilization	Demolition	3/25/2024	3/29/2024	5.00	5.00	—
Demolition	Demolition	4/1/2024	5/10/2024	5.00	30.0	—

Site Preparation	Site Preparation	6/24/2024	7/5/2024	5.00	10.0	—
Grading	Grading	7/22/2024	7/26/2024	5.00	5.00	—
Well Drilling	Building Construction	8/26/2024	9/30/2024	7.00	36.0	—
Well Dev & Testing	Building Construction	10/1/2024	10/6/2024	7.00	6.00	—
Building Construction	Building Construction	11/18/2024	1/3/2025	5.00	35.0	—
Paving	Paving	11/4/2024	11/15/2024	5.00	10.0	—
Architectural Coating	Architectural Coating	1/6/2025	1/10/2025	5.00	5.00	—
Utility/Conduit Connections	Trenching	10/7/2024	10/25/2024	5.00	15.0	—
Addtl Trucks for Drilling	Trenching	8/26/2024	8/31/2024	7.00	6.00	—
Demobilization	Trenching	1/13/2025	1/17/2025	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Mobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Mobilization	Graders	Diesel	Average	1.00	8.00	148	0.41
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	5.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Skid Steer Loaders	Diesel	Average	1.00	2.00	71.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Well Drilling	Cranes	Diesel	Average	1.00	4.00	367	0.29
Well Drilling	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Well Drilling	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Well Drilling	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Well Drilling	Pumps	Diesel	Average	1.00	24.0	11.0	0.74
Well Drilling	Generator Sets	Diesel	Average	1.00	24.0	14.0	0.74
Well Drilling	Other Construction Equipment	Diesel	Average	1.00	24.0	151	0.42
Well Drilling	Air Compressors	Diesel	Average	1.00	24.0	37.0	0.48
Well Dev & Testing	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Well Dev & Testing	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Well Dev & Testing	Air Compressors	Diesel	Average	1.00	24.0	37.0	0.48
Well Dev & Testing	Pumps	Diesel	Average	1.00	24.0	11.0	0.74
Well Dev & Testing	Generator Sets	Diesel	Average	1.00	24.0	14.0	0.74
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Cement and Mortar Mixers	Diesel	Average	1.00	3.00	10.0	0.56
Building Construction	Concrete/Industrial Saws	Diesel	Average	1.00	3.00	33.0	0.73
Building Construction	Aerial Lifts	Diesel	Average	1.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Paving Equipment	Diesel	Average	1.00	7.00	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

Utility/Conduit Connections	Graders	Diesel	Average	1.00	8.00	148	0.41
Utility/Conduit Connections	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Utility/Conduit Connections	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Demobilization	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Demobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Mobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Mobilization	Graders	Diesel	Average	1.00	8.00	148	0.41
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	5.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Skid Steer Loaders	Diesel	Average	1.00	2.00	71.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Well Drilling	Cranes	Diesel	Average	1.00	4.00	367	0.29
Well Drilling	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Well Drilling	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

Well Drilling	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Well Drilling	Pumps	Diesel	Average	1.00	24.0	11.0	0.74
Well Drilling	Generator Sets	Diesel	Average	1.00	24.0	14.0	0.74
Well Drilling	Other Construction Equipment	Diesel	Average	1.00	24.0	151	0.42
Well Drilling	Air Compressors	Diesel	Average	1.00	24.0	37.0	0.48
Well Dev & Testing	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Well Dev & Testing	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Well Dev & Testing	Air Compressors	Diesel	Average	1.00	24.0	37.0	0.48
Well Dev & Testing	Pumps	Diesel	Average	1.00	24.0	11.0	0.74
Well Dev & Testing	Generator Sets	Diesel	Average	1.00	24.0	14.0	0.74
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Cement and Mortar Mixers	Diesel	Average	1.00	3.00	10.0	0.56
Building Construction	Concrete/Industrial Saws	Diesel	Average	1.00	3.00	33.0	0.73
Building Construction	Aerial Lifts	Diesel	Average	1.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Paving Equipment	Diesel	Average	1.00	7.00	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Utility/Conduit Connections	Graders	Diesel	Average	1.00	8.00	148	0.41
Utility/Conduit Connections	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Utility/Conduit Connections	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Demobilization	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20

Demobilization	Tractors/Loaders/Backh	Diesel	Average	1.00	6.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Mobilization	—	—	—	—
Mobilization	Worker	8.00	9.71	LDA,LDT1,LDT2
Mobilization	Vendor	2.00	6.06	HHDT,MHDT
Mobilization	Hauling	2.00	20.0	HHDT
Mobilization	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	8.00	9.71	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.06	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	8.00	9.71	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.06	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Well Drilling	—	—	—	—
Well Drilling	Worker	10.0	9.71	LDA,LDT1,LDT2
Well Drilling	Vendor	2.00	6.06	HHDT,MHDT
Well Drilling	Hauling	0.00	20.0	HHDT
Well Drilling	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	8.00	9.71	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.06	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.00	9.71	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	6.06	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	8.00	9.71	LDA,LDT1,LDT2
Demolition	Vendor	2.00	6.06	HHDT,MHDT
Demolition	Hauling	2.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Well Dev & Testing	—	—	—	—
Well Dev & Testing	Worker	8.00	9.71	LDA,LDT1,LDT2
Well Dev & Testing	Vendor	2.00	6.06	HHDT,MHDT
Well Dev & Testing	Hauling	0.00	20.0	HHDT
Well Dev & Testing	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	4.00	9.71	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	6.06	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Utility/Conduit Connections	—	—	—	—
Utility/Conduit Connections	Worker	8.00	9.71	LDA,LDT1,LDT2
Utility/Conduit Connections	Vendor	2.00	6.06	HHDT,MHDT

Utility/Conduit Connections	Hauling	0.00	20.0	HHDT
Utility/Conduit Connections	Onsite truck	—	—	HHDT
Addtl Trucks for Drilling	—	—	—	—
Addtl Trucks for Drilling	Worker	0.00	9.71	LDA,LDT1,LDT2
Addtl Trucks for Drilling	Vendor	4.00	20.0	HHDT
Addtl Trucks for Drilling	Hauling	2.00	100	HHDT
Addtl Trucks for Drilling	Onsite truck	—	—	HHDT
Demobilization	—	—	—	—
Demobilization	Worker	6.00	9.71	LDA,LDT1,LDT2
Demobilization	Vendor	2.00	6.06	HHDT,MHDT
Demobilization	Hauling	2.00	20.0	HHDT
Demobilization	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Mobilization	—	—	—	—
Mobilization	Worker	8.00	9.71	LDA,LDT1,LDT2
Mobilization	Vendor	2.00	6.06	HHDT,MHDT
Mobilization	Hauling	2.00	20.0	HHDT
Mobilization	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	8.00	9.71	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.06	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	8.00	9.71	LDA,LDT1,LDT2

Grading	Vendor	2.00	6.06	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Well Drilling	—	—	—	—
Well Drilling	Worker	10.0	9.71	LDA,LDT1,LDT2
Well Drilling	Vendor	2.00	6.06	HHDT,MHDT
Well Drilling	Hauling	0.00	20.0	HHDT
Well Drilling	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	8.00	9.71	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.06	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.00	9.71	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	6.06	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	8.00	9.71	LDA,LDT1,LDT2
Demolition	Vendor	2.00	6.06	HHDT,MHDT
Demolition	Hauling	2.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Well Dev & Testing	—	—	—	—
Well Dev & Testing	Worker	8.00	9.71	LDA,LDT1,LDT2
Well Dev & Testing	Vendor	2.00	6.06	HHDT,MHDT
Well Dev & Testing	Hauling	0.00	20.0	HHDT

Well Dev & Testing	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	4.00	9.71	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	6.06	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Utility/Conduit Connections	—	—	—	—
Utility/Conduit Connections	Worker	8.00	9.71	LDA,LDT1,LDT2
Utility/Conduit Connections	Vendor	2.00	6.06	HHDT,MHDT
Utility/Conduit Connections	Hauling	0.00	20.0	HHDT
Utility/Conduit Connections	Onsite truck	—	—	HHDT
Addtl Trucks for Drilling	—	—	—	—
Addtl Trucks for Drilling	Worker	0.00	9.71	LDA,LDT1,LDT2
Addtl Trucks for Drilling	Vendor	4.00	20.0	HHDT
Addtl Trucks for Drilling	Hauling	2.00	100	HHDT
Addtl Trucks for Drilling	Onsite truck	—	—	HHDT
Demobilization	—	—	—	—
Demobilization	Worker	6.00	9.71	LDA,LDT1,LDT2
Demobilization	Vendor	2.00	6.06	HHDT,MHDT
Demobilization	Hauling	2.00	20.0	HHDT
Demobilization	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	1,500	500	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Mobilization	0.00	0.00	0.00	0.00	—
Demolition	0.00	0.00	0.00	2,275	—
Site Preparation	—	—	5.00	0.00	—
Grading	—	—	3.75	0.00	—
Paving	0.00	0.00	0.00	0.00	0.50

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.50	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	2.00	0.00	0.00	521	16.7	0.00	0.00	4,343

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	2.00	0.00	0.00	521	16.7	0.00	0.00	4,343

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,500	500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	230,000	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	230,000	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	0.00	2,600

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	0.00	2,600

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	1.24	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	1.24	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	50.0	175	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	6.83	annual days of extreme heat

Extreme Precipitation	18.0	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	5.04	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	17.6
AQ-PM	4.09
AQ-DPM	15.0
Drinking Water	48.7
Lead Risk Housing	20.5
Pesticides	15.9

Toxic Releases	19.7
Traffic	73.3
Effect Indicators	—
CleanUp Sites	93.1
Groundwater	88.8
Haz Waste Facilities/Generators	89.7
Impaired Water Bodies	66.7
Solid Waste	0.00
Sensitive Population	—
Asthma	12.0
Cardio-vascular	23.0
Low Birth Weights	3.68
Socioeconomic Factor Indicators	—
Education	10.3
Housing	41.4
Linguistic	2.81
Poverty	16.0
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	85.34582317
Employed	91.08174002
Median HI	87.96355704
Education	—

Bachelor's or higher	79.93070704
High school enrollment	100
Preschool enrollment	60.90080842
Transportation	—
Auto Access	83.51084306
Active commuting	68.62568972
Social	—
2-parent households	72.5009624
Voting	74.91338381
Neighborhood	—
Alcohol availability	59.2839728
Park access	41.8324137
Retail density	25.08661619
Supermarket access	45.3997177
Tree canopy	97.84421917
Housing	—
Homeownership	66.14910817
Housing habitability	70.78147055
Low-inc homeowner severe housing cost burden	87.48877197
Low-inc renter severe housing cost burden	44.25766714
Uncrowded housing	58.74502759
Health Outcomes	—
Insured adults	79.19928141
Arthritis	0.0
Asthma ER Admissions	91.0
High Blood Pressure	0.0
Cancer (excluding skin)	0.0

Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	78.3
Cognitively Disabled	85.7
Physically Disabled	94.6
Heart Attack ER Admissions	93.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	83.8
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	64.0
Elderly	47.3
English Speaking	88.4
Foreign-born	15.3
Outdoor Workers	44.6
Climate Change Adaptive Capacity	—

Impervious Surface Cover	89.1
Traffic Density	40.8
Traffic Access	0.0
Other Indices	—
Hardship	12.0
Other Decision Support	—
2016 Voting	87.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	10.0
Healthy Places Index Score for Project Location (b)	91.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Land Use	Based on project site.
Construction: Construction Phases	Based on March 2024 to January 2025 construction schedule.
Construction: Off-Road Equipment	Based on estimated equipment for project.
Construction: Trips and VMT	Based on estimated worker, vendor, haul vehicle trips.
Construction: On-Road Fugitive Dust	Project is located in an urban area with paved roads.
Construction: Paving	Assumed site will be paved.
Operations: Vehicle Data	Conservatively assumed 1 daily trip per weekday
Operations: Fleet Mix	Assumed 100% passenger-type vehicles for workers.
Operations: Road Dust	Project is in an urban area with paved roads.
Operations: Energy Use	Project will use 230,000 kWh per year
Operations: Water and Waste Water	50 gallons of water for landscaping per week. No indoor water use.

Construction

			Gallons		
Source	**Percent**	**Total MTC(**	**Diesel**	**Gasoline**	
2024					
Off-road	90.8%	123	12,004		
Electricity	0.0%	0			
Worker	2.7%	4		415	
Vendor	2.8%	4	370		
Hauling	3.6%	5	476		
Onsite Truck	0.0%	0	0		
Total	*100.0%*	*135*	*12,850*	*415*	
2025					
Off-road	71.0%	2	167		
Electricity	0.0%	0			
Worker	7.8%	0		21	
Vendor	5.7%	0	13		
Hauling	15.5%	0	36		
Onsite Truck	0.0%	0	0		
Total	*100.0%*	*2*	*217*	*21*	
Total Construction Period					
Off-road	90.5%	124	12,170	0	
Electricity	0.0%	0	0	0	
Worker	2.8%	4	0	436	
Vendor	2.9%	4	384	0	
Hauling	3.8%	5	512	0	
Onsite Truck	0.0%	0	0	0	
Total	***100%***	***137***	***13,066***	***436***	**13,503**

Operation

Source	Percent	Total MTCO2	Gallons Diesel	Gallons Gasoline
Mobile Exhaust	4.4%	1.29	0	148
Landscape Equipment	0.1%	0.03		3
Electricity	72.4%	21.27		
Natural Gas Energy	0.0%	0.00		
Water and Wastewater	0.0%	0.00		
Solid Waste	0.4%	0.12		
Emergency Generators	22.7%	6.67	653	
Total	**100.0%**	**29.38416506**	**653**	**151**

Type	Total	Units
Petroleum	805	gallons/year
Electricity	230,000	kWh/year
Natural Gas	0	kBTU/year

Constants		
Fuel	**KgCO2/ Gallon**	1000 Kg in MT
Gasoline	8.78	
Diesel	10.21	

Source: The Climate Registry 2021

Table 2.1 U.S. Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels

Fuel Type	Carbon Content (Per Unit Energy)	Heat Content	Fraction Oxidized	CO_2 Emission Factor (Per Unit Volume)
Fuels Measured in Gallons	**kg C / MMBtu**	**MMBtu / barrel**		**kg CO_2 / gallon**
Gasoline	19.2	5.25	1	8.78
Diesel Fuel	20.2	5.80	1	10.21

Appendix B

Biological Resources Assessment

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MEMORANDUM

To:	Nate Gillespie, Scotts Valley Water District
From:	Kelsey Higney, Dudek
Subject:	Biological Resources Assessment; SVWD Grace Way Well Project, Scotts Valley, California
Date:	July 5, 2023
cc:	Catherine Wade, Dudek Matt Ricketts, Dudek
Attachment(s):	A. Figures B. Photo Log C. Plant and Wildlife Species Observed D. Plant and Wildlife Species Potential to Occur

1 Introduction

This biological resources technical memorandum summarizes Dudek's findings from a reconnaissance-level biological field survey for the Scotts Valley Water District (SVWD) Grace Way Well Project (Project) in the city of Scotts Valley, Santa Cruz County, California. The proposed Project consists of a new groundwater well in Scotts Valley that will allow for increased extraction capacity to strengthen the SVWD's ability to meet potential demand. The Project site (site) is a vacant lot behind existing commercial buildings in a developed area of Scotts Valley near the intersection of Scotts Valley Drive and Willis Road. The site is bounded by Grace Way to the west and commercial development to the north, east, and south. The Project would consist of drilling and equipping a 1,100-foot-deep well into the Butano and Lompico aquifers of the Santa Margarita Groundwater Basin to increase groundwater production. The following would be required for Project construction and implementation: (1) drilling to approximately 1,100 feet deep and installing a well screen, filter pack and sanitary screen to complete well construction; and (2) construction of mechanical facilities at the well site including pump, motor, disinfection, metering, and supervisory control and data acquisition (SCADA) facilities. The well would supplement SVWD's current extraction capacity of 2.25 million gallons per day (1,560 gallons per minute) to serve SVWD demand while sustainably managing the aquifer underlying SVWD.

1.1 Site Location

The site is in an urban/commercial setting in Scotts Valley (Figure 1) and consists primarily of paved surfaces or ruderal vegetation. The northwestern border of the site contains large coast live oak trees. Redwood forest is present to the north and west. The site is otherwise surrounded by residential and commercial development. No natural vegetation communities are present within the Project site. Elevation ranges from approximately 580 to 610 feet above mean sea level. Topography is generally flat, sloping slightly as the empty lot reaches Grace Way.

The region surrounding the site receives an annual average of approximately 49.25 inches of precipitation. Average temperatures range from approximately 43.5 to 73.8°F (WRCC 2023).

2 Methods

2.1 Desktop Literature Review

Prior to fieldwork, Dudek conducted a records search of online databases to identify sensitive biological resources with potential to occur in the site vicinity. For this memorandum, special-status plant and wildlife species are defined as those that are listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act; listed or candidates for listing as threatened or endangered under the California Endangered Species Act; designated as fully protected under the California Fish and Game Code; designated as a California species of special concern by CDFW; and/or assigned a California Rare Plant Rank of 1 or 2 by the California Native Plant Society. Special-status plant and wildlife species known to occur in the vicinity were identified through a review of past records documented in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2023a), California Native Plant Society's Inventory of Rare and Endangered Plants of California (CNPS 2023) and the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online planning tool (USFWS 2023a). Dudek conducted a search of these databases for the Big Basin, Castle Rock Ridge, Davenport, Felton, Laurel, Los Gatos, Santa Cruz and Soquel U.S. Geological Survey 7.5 minute quadrangles to assess sensitive species potentially occurring within the Project region. These database queries along with project site conditions, and results of field survey conducted by a Dudek staff biologist indicate that no state or federally listed special-status plant or wildlife species have a moderate or high potential to occur on the Project site.

2.2 Biological Resources Survey

Dudek biologist Kelsey Higney conducted a reconnaissance-level field survey of the biological study area (BSA) including the Project site and 50-foot buffer on June 12, 2023. The focus of the survey was to identify existing biological resources, including vegetation and wildlife habitat values and habitat suitability for special-status plant and wildlife species, as well as to document the presence of aquatic resources or sensitive natural vegetation communities. The site was surveyed on foot with the aid of binoculars. A digital map accessible on a handheld device (ESRI 2023) was used for navigation and observations were recorded in a field notebook.

3 Results

Based on the results of the database search and literature review, a total of 100 special-status species (59 plants and 41 animals) were identified as potentially occurring in the Project region (Attachment D, Plant and Wildlife Species Potential to Occur).

3.1 Special-Status Plants

A total of 10 species of native or naturalized plants, 4 native (40%) and 6 non-native (60%) were recorded in the BSA during the biological field surveys (Attachment C, Plant and Wildlife Species Observed). No special-status plant species were identified. The site was previously disturbed and contains mostly herbaceous weeds and non-native grasses characteristic of disturbed habitats.

A total of 59 special-status plants have potential to occur in the vicinity of the Project site (Attachment D.1, Special-Status Plant Species Potential to Occur). However, due to the existing developed and disturbed nature of the site and largely urbanized setting of the surrounding lands, as well as the absence of suitable native communities and substrates that could support special-status plants, the occurrence of special-status plant species on the site is highly unlikely.

3.2 Special-Status Wildlife

A total of 10 wildlife species were detected during the biological field surveys (Attachment C, Plant and Wildlife Species Observed). No special-status wildlife species were observed. No bird nests (active or inactive), nor any nesting behavior such as courtship, nest-building, food deliveries, or territorial displays were observed during the surveys, but suitable nesting habitat for numerous native bird species protected under the Migratory Bird Treaty Act (MBTA) occurs in the vicinity.

A total of 41 special-status wildlife species have potential to occur in the vicinity of the Project site (Attachment D.2, Special-Status Wildlife Species Potential to Occur). These species are not expected or have a low potential to occur on or in the vicinity of the Project site due to the absence of suitable habitat conditions, existing developed and disturbed conditions, and associated urban land uses.

3.3 Aquatic Resources

No aquatic resources were identified within the BSA during the field survey. The nearest aquatic resource, Carbonera Creek, is a federally and state-protected aquatic resource under USACE (Clean Water Act), Regional Water Quality Control Board (Porter-Cologne Water Quality Control Act), and CDFW (California Fish and Game Code Section 1600) jurisdiction but is across Scotts Valley Drive outside the project boundary (USFWS 2023b).

3.4 Sensitive Natural Communities

No natural communities considered sensitive by CDFW were identified within the Project site during the field survey (CDFW 2023b). The entire site is urban and developed. Redwood forest and coast live oak woodland border the BSA, however project work is unlikely to impact these communities.

4 Conclusions

A Dudek biologist conducted a biological reconnaissance-level field surveys for the project on June 12, 2023, the results of which are summarized below.

- No special-status plant species were identified in the BSA.

- No special-status wildlife species were identified in the BSA.
- Due to the absence of suitable habitat conditions and existing developed and disturbed conditions on the Project site and in the immediate vicinity of the Project site, no special status plant or wildlife species are expected to occur.
- The BSA offers potential nesting habitat for native migratory birds.
- No aquatic resources were identified in the BSA.
- No sensitive natural communities were identified on the BSA.
- The proposed Project will have no effect on critical habitat as no critical habitat has been designated in the location of the Project site.

4.1 Avoidance and Minimization Measures

Nesting and Migratory Birds

The BSA provides potential nesting habitat for a variety of migratory birds. In California, all native birds and active bird nests (with eggs or young) are protected by Sections 3503 and 3503.5 of the California Fish and Game Code. If conducted during the nesting season (typically defined by CDFW as February 1–August 31, with peak activity between April and June), Project activities could directly impact active nests in affected trees and ornamental shrubs within the BSA. Implementation of the following measure would avoid impacts on nesting and migratory birds.

- **Avoidance and Minimization Measure (AMM)-1: Pre-activity Surveys for Nesting Birds.** Within 14 days prior to any ground-disturbing activities or vegetation clearing during the nesting season, a qualified biologist or biological monitor shall conduct a pre-activity nesting bird survey of all potential nesting habitat within the Project site, including a 100-foot buffer for passerine species and a 300-foot buffer for raptors. If there is a lapse between the survey time and initiation of work activities of 14 days or greater, the nesting bird survey shall be repeated. If active nests are found during the survey, work in that area shall stop and a qualified biologist or biological monitor shall determine an appropriate no-work buffer around the nest based on the activity and species and mark the buffer using flagging, pin flags, lathe stakes, or similar marking method. No work shall occur within the buffer until the young have fledged or the nest(s) are no longer active, as determined by the biologist or biological monitor.

After reviewing special-status species occurrences in the site vicinity and evaluating proposed Project activities in the context of existing conditions and land uses, and in conjunction with Dudek's recommended Avoidance and Minimization Measure, the proposed Project is not expected to have significant impacts on special-status plant or animal species or other sensitive biological resources.

6 References

CDFW (California Department of Fish and Wildlife). 2023a. California Natural Diversity Database. CDFW, Biogeographic Data Branch. Accessed June 2023. https://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

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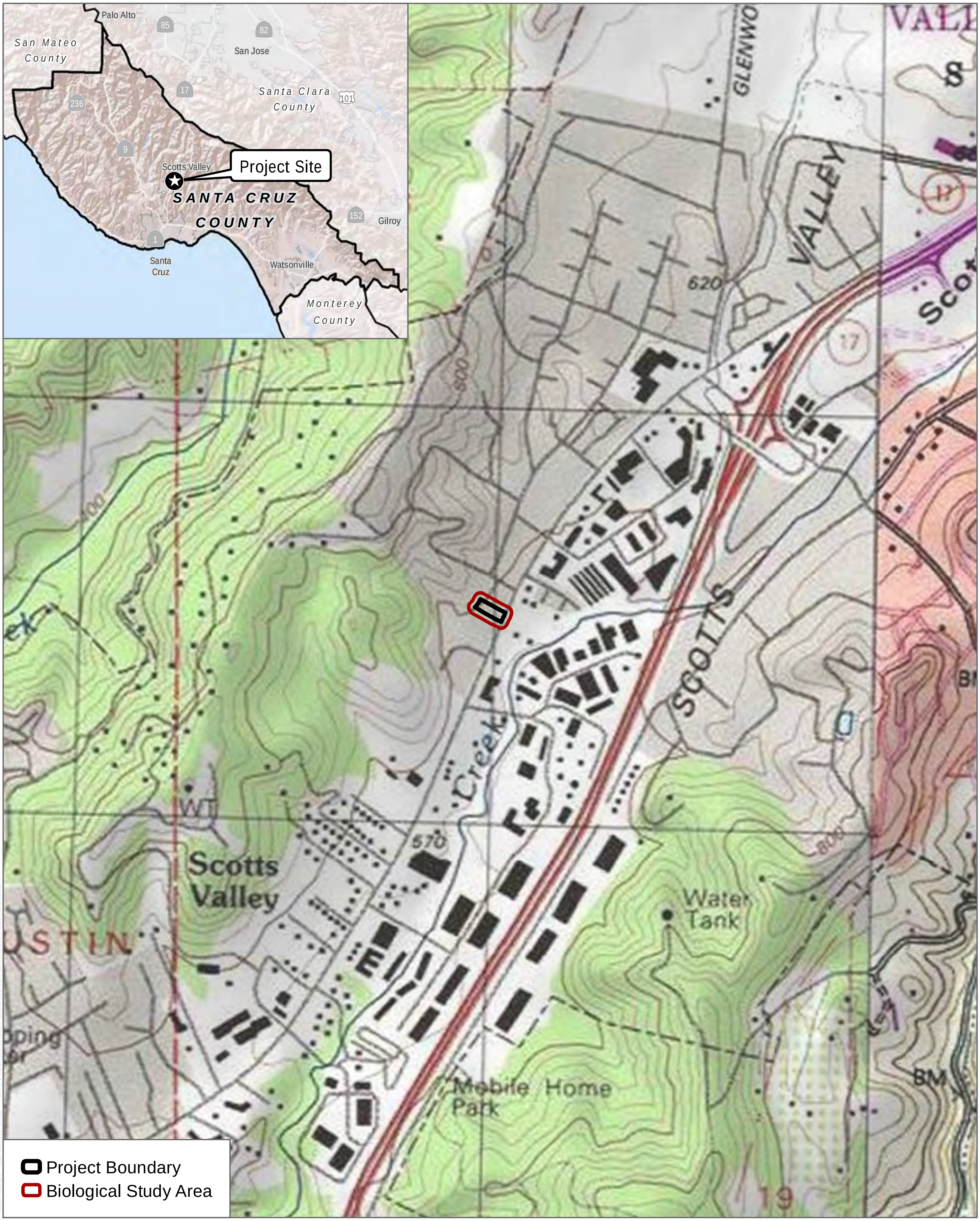
Attachment A

Figures



SOURCE: USGS 7.5-Minute Series Felton Quadrangle, County of Santa Cruz 2022

DUDEK

0 500 1,000 Feet

FIGURE 1

Project Vicinity

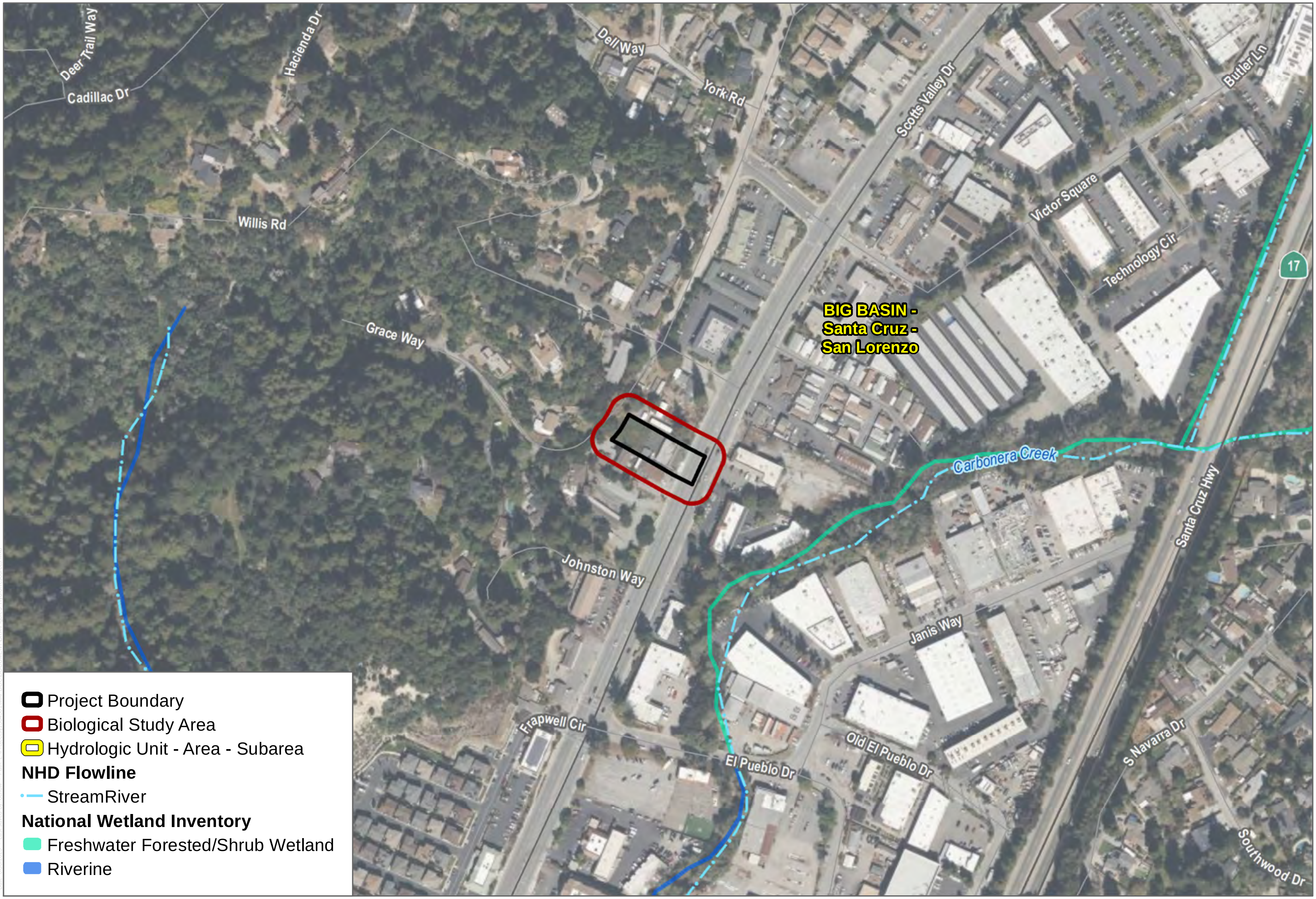
SVWD Grace Way Well Project

SOURCE: Bing Imagery 2022

DUDEK

0 40 80 Feet

FIGURE 2
Project Site
SVWD Grace Way Well Project



SOURCE: Bing Maps 2022, USFWS 2019, USGS 2019

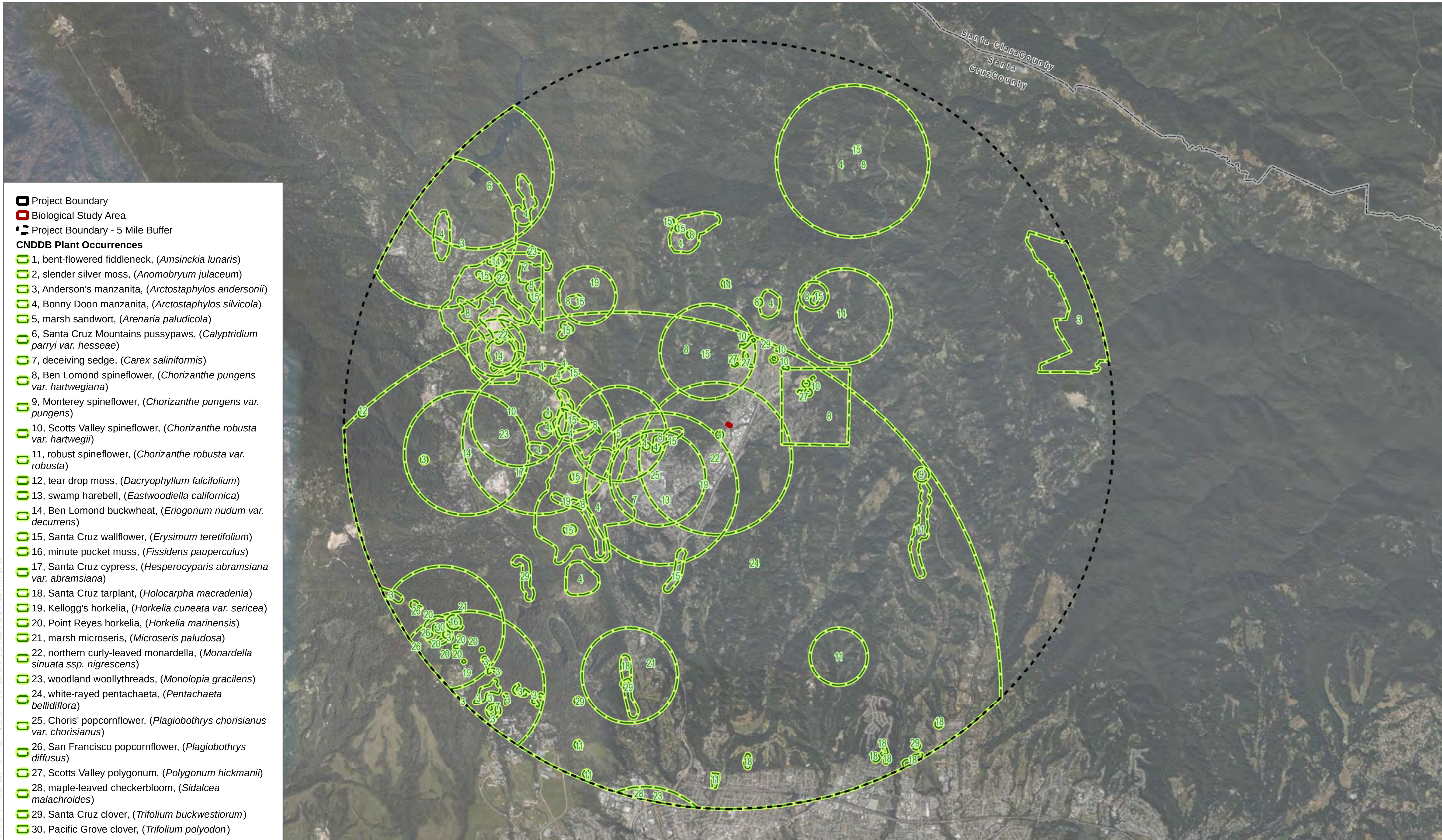
DUDEK

0 165 330 Feet

FIGURE 3

Hydrologic Setting

SVWD Grace Way Well Project



SOURCE: Bing Maps 2022; CA Dept. of Fish and Wildlife 2021

DUDEK

0 3,100 6,200 Feet

FIGURE 4A

Special-Status Species Occurrences - Plants

SVWD Grace Way Well Project

Project Boundary
Biological Study Area
Project Boundary - 5 Mile Buffer

CNDDB Wildlife Occurrences

- 31, Cooper's hawk, (*Accipiter cooperii*)
- 32, Opler's longhorn moth, (*Adela oplerella*)
- 33, Santa Cruz black salamander, (*Aneides niger*)
- 34, pallid bat, (*Antrozous pallidus*)
- 35, obscure bumble bee, (*Bombus caliginosus*)
- 36, Crotch bumble bee, (*Bombus crotchii*)
- 37, western bumble bee, (*Bombus occidentalis*)
- 38, Ohlone tiger beetle, (*Cicindela ohlone*)
- 39, yellow rail, (*Coturnicops noveboracensis*)
- 40, California giant salamander, (*Dicamptodon ensatus*)
- 41, Santa Cruz kangaroo rat, (*Dipodomys venustus venustus*)
- 42, white-tailed kite, (*Elanus leucurus*)
- 43, western pond turtle, (*Emys marmorata*)
- 44, Smith's blue butterfly, (*Euphilotes enoptes smithi*)
- 45, American peregrine falcon, (*Falco peregrinus anatum*)
- 46, hoary bat, (*Lasiurus cinereus*)
- 47, California black rail, (*Laterallus jamaicensis coturniculus*)
- 48, moestan blister beetle, (*Lytta moesta*)
- 49, western pearlshell, (*Margaritifera falcata*)
- 50, San Francisco dusky-footed woodrat, (*Neotoma fuscipes annectens*)
- 51, coho salmon - central California coast ESU, (*Oncorhynchus kisutch pop. 4*)
- 52, steelhead - central California coast DPS, (*Oncorhynchus mykiss irideus pop. 8*)
- 53, osprey, (*Pandion haliaetus*)
- 54, Antioch specid wasp, (*Philanthus nasalis*)
- 55, Mount Hermon (=barbate) June beetle, (*Polyphylla barbata*)
- 56, foothill yellow-legged frog - central coast DPS, (*Rana boylii pop. 4*)
- 57, California red-legged frog, (*Rana draytonii*)
- 58, bank swallow, (*Riparia riparia*)
- 59, Behrens' snail-eating beetle, (*Scaphinotus behrensi*)
- 60, American badger, (*Taxidea taxus*)
- 61, Zayante band-winged grasshopper, (*Trimerotropis infantilis*)

SOURCE: Bing Maps 2022; CA Dept. of Fish and Wildlife 2021

DUDEK

0 3,125 6,250 Feet

FIGURE 4B

Special-Status Species Occurrences - Wildlife

SVWD Grace Way Well Project

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Attachment B

Photo Log

Photo 1. Photo of the northeastern edge of the project site, facing west, with coast live oak and shrub habitat present.

Photo 2. Photo of the northwest and western edges of the Project site with potential nesting bird habitat.

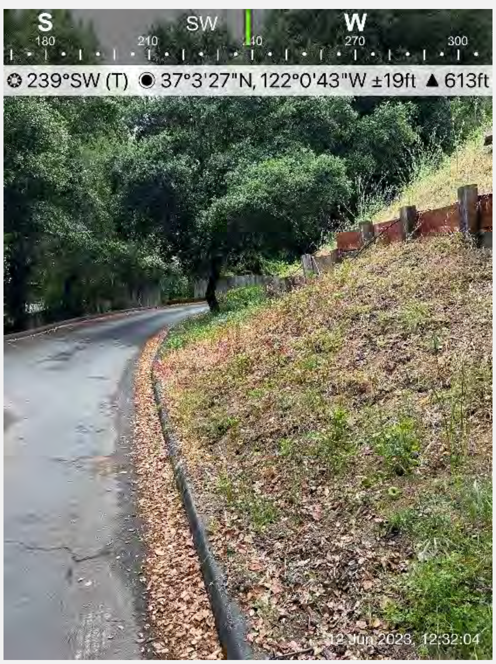

Photo 3. Grassy slope at the northwestern edge of the BSA with potential ground-nesting bird habitat.

Photo 4. Photo of structures at the western edge of the Project site, with marginal roosting bat habitat.

Photo 5. Photo of the Project site facing northeast.

Photo 6. Photo of the northeastern edge of the Project site.

Attachment C

Plant and Wildlife Species Observed

Plant Species

Angiosperms (Dicots)

ANACARDIACEAE – SUMAC FAMILY

Toxicodendron diversilobum—poison oak

APOCYNACEAE—DOGBANE FAMILY

Nerium oleander—oleander*

FABACEAE—LEGUME FAMILY

Vicia villosa—winter vetch*

FAGACEAE—OAK FAMILY

Quercus agrifolia—coast live oak

GERANIACEAE—GERANIUM FAMILY

Erodium botrys—longbeak stork's bill*

MYRSINACEAE—MYRSINE FAMILY

Lysimachia arvensis—scarlet pimpernel*

ROSACEAE—ROSE FAMILY

Rubus ursinus—California blackberry

GYMNOSPERMS AND GNETOPHYTES

CUPRESSACEAE—Cypress Family

Sequoia sempervirens—redwood

Monocots

POACEAE—GRASS FAMILY

Avena barbata—slender oat*

Bromus diandrus—ripgut brome*

Wildlife Species – Vertebrates

Birds

ACCIPITRIDAE – HAWKS

Buteo jamaicensis – red-tailed hawk

CORVIDAE – JAYS AND CROWS

Aphelocoma californica—California scrub-jay

Corvus brachyrhynchos – American crow

Corvus corax—common raven

Cyanocitta stelleri—Steller's jay

FRINGILLIDAE – FINCHES

Carpodacus mexicanus – house finch

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis—dark-eyed junco

Pipilo maculatus—spotted towhee

PICIDAE—WOODPECKERS & ALLIES

Melanerpes formicivorus—acorn woodpecker

TYRANNIDAE—TYRANT FLYCATCHERS

Empidonax difficilis—Pacific-slope flycatcher

Attachment D
Plant and Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Agrostis blasdalei	Blasdale's bent grass	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie/perennial rhizomatous herb/May–July/0–490	**Not expected to occur.** There is no suitable habitat for this species present in the BSA and no CNDDB occurrences within 5 miles (CDFW 2023).
Amsinckia lunaris	bent-flowered fiddleneck	None/None/1B.2	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland/annual herb/Mar–June/10–1,640	**Not expected to occur.** There is no suitable habitat for this species present in the BSA and no CNDDB occurrences within 5 miles (CDFW 2023).
Arctostaphylos andersonii	Anderson's manzanita	None/None/1B.2	Broad-leafed upland forest, Chaparral, North Coast coniferous forest; Edges, Openings/perennial evergreen shrub/Nov–May/195–2,490	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species in the BSA. There are no CNDDB occurrences within 5 miles of the Project site (CDFW 2023).
Arctostaphylos glutinosa	Schreiber's manzanita	None/None/1B.2	Chaparral, Closed-cone coniferous forest/perennial evergreen shrub/Mar–Apr(Nov)/560–2,245	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Arctostaphylos ohloneana	Ohlone manzanita	None/None/1B.1	Closed-cone coniferous forest, Coastal scrub/evergreen shrub/Feb–Mar/1,475–1,735	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Arctostaphylos regismontana	Kings Mountain manzanita	None/None/1B.2	Broad-leafed upland forest, Chaparral, North Coast coniferous forest; Granitic, Sandstone/perennial evergreen shrub/Dec–Apr/1,000–2,395	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species within the BSA, but no suitable habitat within the Project site. There are no CNDDB occurrences within 5 miles of the project site (CDFW 2023).
Arctostaphylos silvicola	Bonny Doon manzanita	None/None/1B.2	Chaparral, Closed-cone coniferous forest, Lower montane coniferous forest/perennial evergreen shrub/Jan–Mar/395–1,965	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Arenaria paludicola	marsh sandwort	FE/SE/1B.1	Marshes and swamps; Openings, Sandy/perennial stoloniferous herb/May–Aug/10–560	Not expected to occur. There is no suitable marsh or swamp habitat present within the BSA.
Astragalus agnicidus	Humboldt County milk-vetch	None/SE/1B.1	Broad-leafed upland forest, North Coast coniferous forest; Disturbed areas, Openings, Roadsides (sometimes)/perennial herb/Apr–Sep/395–2,620	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA, and abundant disturbed habitat. There are no CNDDB occurrences within 5 miles of the Project site (CDFW 2023).
Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	None/None/1B.1	Chaparral, Cismontane woodland; Gravelly (sometimes), Openings, Sandy (sometimes)/annual herb/May–Aug/1,000–5,015	Not expected to occur. There is no suitable habitat for this species present in the BSA.
Carex comosa	bristly sedge	None/None/2B.1	Coastal prairie, Marshes and swamps, Valley and foothill grassland/perennial rhizomatous herb/May–Sep/0–2,050	Not expected to occur. There is no suitable habitat for this species present in the BSA.
Carex saliniformis	deceiving sedge	None/None/1B.2	Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps; Mesic/perennial rhizomatous herb/June(July)/10–755	Not expected to occur. There is no suitable habitat for this species present in the BSA.
Centromadia parryi ssp. congdonii	Congdon's tarplant	None/None/1B.1	Valley and foothill grassland/annual herb/May–Oct(Nov)/0–755	Not expected to occur. There is no suitable habitat for this species present in the BSA.
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	FE/None/1B.1	Lower montane coniferous forest/annual herb/Apr–July/295–2,000	Not expected to occur. There is no suitable habitat for this species present in the BSA.
Chorizanthe pungens var. pungens	Monterey spineflower	FT/None/1B.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/Apr–June(July–Aug)/10–1,475	Not expected to occur. There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Chorizanthe robusta var. hartwegii	Scotts Valley spineflower	FE/None/1B.1	Meadows and seeps, Valley and foothill grassland/annual herb/Apr–July/755–805	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Chorizanthe robusta var. robusta	robust spineflower	FE/None/1B.1	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Apr–Sep/10–985	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Cirsium fontinale var. campylon	Mt. Hamilton thistle	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; Seeps, Serpentinite/perennial herb/(Feb)Apr–Oct/330–2,915	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Collinsia multicolor	San Francisco collinsia	None/None/1B.2	Closed-cone coniferous forest, Coastal scrub; Serpentinite (sometimes)/annual herb/(Feb)Mar–May/100–900	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Dacryophyllum falcifolium	tear drop moss	None/None/1B.3	North Coast coniferous forest; Carbonate/moss//165–900	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Dirca occidentalis	western leatherwood	None/None/1B.2	Broad-leafed upland forest, Chaparral, Cismontane woodland, Closed-cone coniferous forest, North Coast coniferous forest, Riparian forest, Riparian woodland; Mesic/perennial deciduous shrub/Jan–Mar(Apr)/80–1,390	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species within the BSA. There are no CNDDB occurrences within 5 miles of the project site (CDFW 2023).
Dudleya abramsii ssp. setchellii	Santa Clara Valley dudleya	FE/None/1B.1	Cismontane woodland, Valley and foothill grassland; Rocky, Serpentinite/perennial herb/Apr–Oct/195–1,755	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	None/None/1B.1	Chaparral, Cismontane woodland, Lower montane coniferous forest; Sandy/perennial herb/June–Oct/165–2,620	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Erysimum teretifolium	Santa Cruz wallflower	FE/SE/1B.1	Chaparral, Lower montane coniferous forest/perennial herb/Mar–July/395–2,000	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Fissidens pauperculus	minute pocket moss	None/None/1B.2	North Coast coniferous forest/moss//35–3,355	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Fritillaria liliacea	fragrant fritillary	None/None/1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland; Serpentinite (often)/perennial bulbiferous herb/Feb–Apr/10–1,345	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Grimmia torenii	Toren's grimmia	None/None/1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest; Carbonate, Openings, Rocky, Volcanic/moss//1,065–3,805	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Grimmia vaginulata	vaginulate grimmia	None/None/1B.1	Chaparral; Carbonate, Rocky/moss//2,245	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Hesperevax sparsiflora var. brevifolia	short-leaved evax	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie/annual herb/Mar–June/0–705	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Hesperocyparis abramsiana var. abramsiana	Santa Cruz cypress	FT/SE/1B.2	Chaparral, Closed-cone coniferous forest, Lower montane coniferous forest; Granitic (sometimes), Sandstone (sometimes)/perennial evergreen tree//920–2,620	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Hesperocyparis abramsiana var. butanoensis	Butano Ridge cypress	FT/SE/1B.2	Chaparral, Closed-cone coniferous forest, Lower montane coniferous forest; Sandstone/perennial evergreen tree/Oct/1,310–1,605	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Hoita strobilina	Loma Prieta hoita	None/None/1B.1	Chaparral, Cismontane woodland, Riparian woodland; Mesic, Serpentinite (usually)/perennial herb/May–July(Aug–Oct)/100–2,820	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Holocarpha macradenia	Santa Cruz tarplant	FT/SE/1B.1	Coastal prairie, Coastal scrub, Valley and foothill grassland; Clay (often), Sandy/annual herb/June–Oct/35–720	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Horkelia cuneata var. sericea	Kellogg's horkelia	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal dunes, Coastal scrub; Gravelly (sometimes), Openings, Sandy (sometimes)/perennial herb/Apr–Sep/35–655	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Horkelia marinensis	Point Reyes horkelia	None/None/1B.2	Coastal dunes, Coastal prairie, Coastal scrub; Sandy/perennial herb/May–Sep/15–2,475	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Lasthenia californica ssp. macrantha	perennial goldfields	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub/perennial herb/Jan–Nov/15–1,705	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Lessingia micradenia var. glabrata	smooth lessingia	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; Roadsides (often), Serpentinite/annual herb/(Apr–June)July–Nov/395–1,375	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Malacothamnus arcuatus	arcuate bush-mallow	None/None/1B.2	Chaparral, Cismontane woodland/perennial deciduous shrub/Apr–Sep/50–1,160	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Microseris paludosa	marsh microseris	None/None/1B.2	Cismontane woodland, Closed-cone coniferous forest, Coastal scrub, Valley and foothill grassland/perennial herb/Apr–June(July)/15–1,160	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Monardella sinuata ssp. nigrescens	northern curly-leaved monardella	None/None/1B.2	Chaparral, Coastal dunes, Coastal scrub, Lower montane coniferous forest; Sandy/annual herb/(Apr)May–July(Aug–Sep)/0–985	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Monolopia gracilens	woodland woollythreads	None/None/1B.2	Broad-leafed upland forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland; Serpentinite/annual herb/(Feb)Mar–July/330–3,935	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species within the BSA. There is 1 recent CNDDB occurrence from 2016 (Occ. 54) approximatley 3.4 miles from the Project site, and multiple historical occurrences within 5 miles (CDFW 2023).
Orthotrichum kellmanii	Kellman's bristle moss	None/None/1B.2	Chaparral, Cismontane woodland; Carbonate, Sandstone/moss/Jan–Feb/1,125–2,245	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Pedicularis dudleyi	Dudley's lousewort	None/SR/1B.2	Chaparral, Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland/perennial herb/Apr–June/195–2,950	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Penstemon rattanii var. kleei	Santa Cruz Mountains beardtongue	None/None/1B.2	Chaparral, Lower montane coniferous forest, North Coast coniferous forest/perennial herb/May–June/1,310–3,605	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Pentachaeta bellidiflora	white-rayed pentachaeta	FE/SE/1B.1	Cismontane woodland, Valley and foothill grassland/annual herb/Mar–May/115–2,030	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Pinus radiata	Monterey pine	None/None/1B.1	Cismontane woodland, Closed-cone coniferous forest/perennial evergreen tree//80–605	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Piperia candida	white-flowered rein orchid	None/None/1B.2	Broad-leafed upland forest, Lower montane coniferous forest, North Coast coniferous forest; Serpentinite (sometimes)/perennial herb/(Mar)May–Sep/100–4,295	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species within the BSA. There are no CNDDB occurrences within 5 miles (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	None/None/1B.2	Chaparral, Coastal prairie, Coastal scrub; Mesic/annual herb/Mar–June/10–525	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Plagiobothrys diffusus	San Francisco popcornflower	None/SE/1B.1	Coastal prairie, Valley and foothill grassland/annual herb/Mar–June/195–1,180	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Plagiobothrys glaber	hairless popcornflower	None/None/1A	Marshes and swamps, Meadows and seeps/annual herb/Mar–May/50–590	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Polygonum hickmanii	Scotts Valley polygonum	FE/SE/1B.1	Valley and foothill grassland/annual herb/May–Aug/690–820	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Sagittaria sanfordii	Sanford's arrowhead	None/None/1B.2	Marshes and swamps/perennial rhizomatous herb (emergent)/May–Oct(Nov)/0–2,130	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Sanicula saxatilis	rock sanicle	None/SR/1B.2	Broad-leafed upland forest, Chaparral, Valley and foothill grassland; Rocky, Scree, Talus/perennial herb/Apr–May/2,030–3,850	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/annual herb/Jan–Apr(May)/50–2,620	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Stebbinsoseris decipiens	Santa Cruz microseris	None/None/1B.2	Broad-leafed upland forest, Chaparral, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Valley and foothill grassland; Openings, Serpentinite (sometimes)/annual herb/Apr–May/35–1,640	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species within the BSA. There are no CNDDB occurrences within 5 miles (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Streptanthus albidus ssp. peramoenus	most beautiful jewelflower	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; Serpentinite/annual herb/(Mar)Apr–Sep(Oct)/310–3,280	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.
Trifolium buckwestiorum	Santa Cruz clover	None/None/1B.1	Broad-leafed upland forest, Cismontane woodland, Coastal prairie; Gravelly/annual herb/Apr–Oct/345–2,000	**Low potential to occur.** There is marginal suitable upland forest habitat present for the species within the BSA. The nearest recent CNDDB occurrence is a 2008 approximately 1 mile northeast of the Project site (Occ. 52), and there are multiple other recent and historic CNDDB occurrences within 5 miles (CDFW 2023).
Trifolium polyodon	Pacific Grove clover	None/SR/1B.1	Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Valley and foothill grassland; Granitic (sometimes), Mesic/annual herb/Apr–June(July)/15–1,390	**Not expected to occur.** There is no suitable habitat for this species present in the BSA.

Status Legend
Note: BSA = Biological Study Area
Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
State
SE: State listed as endangered
SR: State listed as rare
CRPR: California Rare Plant Rank
1A: Plants presumed extirpated in California, rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, more common elsewhere
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Amphibians				
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	FT/ST, WL	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent	**Not expected to occur.** The project site does not support suitable habitat for this species.
Ambystoma macrodactylum croceum	Santa Cruz long-toed salamander	FE/FP, SE	Dense riparian vegetation, thick coastal scrub, and oak woodland	**Not expected to occur.** The project site does not support suitable habitat for this species.
Aneides flavipunctatus niger	Santa Cruz black salamander	None/SSC	Restricted to mesic forests in the fog belt of the outer Coast Range of San Mateo, Santa Cruz, and Santa Clara counties. Mixed deciduous and coniferous woodlands and coastal grasslands. Occurs in moist streamside microhabitats and is found under rocks, talus, and damp woody debris.	**Low potential to occur.** The BSA supports marginal suitable upland habitat for this species. There are 15 CNND occurrences within 5 miles of the project site. The nearest recent occurrence is approximately 4 miles southeast of the project site, a 2009 occurrence near UC Santa Cruz. (CDFW 2023).
Dicamptodon ensatus	California giant salamander	None/SSC	Known from wet coastal forests and chaparral near streams and seeps from Mendocino Co. south to Monterey Co. and east to Napa Co. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Low potential to occur.** The BSA supports marginal suitable upland habitat for this species. There are 12 CNND occurrences within 5 miles of the project site. The nearest recent occurrence is approximately 1.5 miles northeast of the project site, a 2016 occurrence near Carbonera Creek (CDFW 2023).
Rana boylii pop. 4	foothill yellow-legged frog - central coast DPS	FPT/SE	Rocky streams and rivers with open banks in forest, chaparral, and woodland.	**Not expected to occur.** The project site does not support suitable habitat for this species.
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**Not expected to occur.** The project site does not support suitable habitat for this species.

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture.	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.
Aquila chrysaetos (nesting & wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.
Brachyramphus marmoratus (nesting)	marbled murrelet	FT/SE	Nests in old-growth coastal forests, forages in subtidal and pelagic habitats	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	**Not expected to nest or forage.** The project site is outside of the known distribution of this species.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.
Cypseloides niger (nesting)	black swift	BCC/SSC	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats	**Not expected to nest or forage.** The project site does not support suitable habitat for this species.

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	**Low potential to nest and forage.** The BSA contains suitable trees for this species to nest as well as marginal open foraging habitat in the project vicinity.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	**Not expected to nest or forage.** The project site is outside of the known distribution of this species.
Falco peregrinus anatum (nesting)	American peregrine falcon	FPD/FP, SCD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	**Low potential to nest and forage.** The BSA contains suitable nesting substrate but lacks suitable wetlands for foraging.
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	BCC/SSC	Nests and forages in emergent wetlands including woody swamp, brackish marsh, and freshwater marsh	**Not expected to nest or forage.** The BSA does not support suitable habitat for this species.
Gymnogyps californianus	California condor	FE/FP, SE	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (Sequoiadendron giganteus); forages in relatively open habitats where large animal carcasses can be detected	**Not expected to nest or forage.** The BSA does not support suitable habitat and is outside of the known distribution for this species.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	**Not expected to nest or forage.** The BSA does not support suitable habitat for this species.
Progne subis (nesting)	purple martin	None/SSC	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways	**Low potential to nest and forage.** The BSA supports marginal suitable habitat for this species and the species occurs in the region, however there are no CNDDB occurrences within 5 miles of the project site (CDFW 2023).

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	**Not expected to nest or forage.** The BSA does not support suitable habitat for this species.
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	**Not expected to nest or forage.** The Project site is outside of the known distribution of this species.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	**Not expected to nest or forage.** The Project site is outside of the known distribution of this species.
Fishes				
Eucyclogobius newberryi	tidewater goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	**Not expected to occur.** The BSA does not contain suitable habitat for this species.
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	FE/SE	Streams and small freshwater tributaries during first half of life cycle and estuarine and marine waters of the Pacific Ocean during the second half of life cycle. Spawns in small streams with stable gravel substrates.	**Not expected to occur.** The BSA does not contain suitable habitat for this species.
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/SCE	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	**Not expected to occur.** The BSA does not contain suitable habitat for this species.
Thaleichthys pacificus	eulachon	FT/None	Found in Klamath River, Mad River, and Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries	**Not expected to occur.** The Project site is outside of the known distribution of this species.
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	**Not expected to occur.** This species is no longer common in central California due to population

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
				declines. There are no CNDDB occurrences within 5 miles (CDFW 2023).
Bombus occidentalis	western bumble bee	None/SCE	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease	**Low potential to occur.** This species is no longer common in central California due to population declines. There are 4 CNDDB occurrences within 5 miles of the project site but no occurrences more recent than 1998 (CDFW 2023).
Cicindela ohlone	Ohlone tiger beetle	FE/None	Remnant native grasslands with California oatgrass (Danthonia californica) and purple needlegrass (Stipa pulchra) in Santa Cruz County	**Not expected to occur.** The BSA does not support suitable native grassland for this species.
Euphilotes enoptes smithi	Smith's blue butterfly	FE/None	Sand dunes, scrub, chaparral, grassland, and their ecotones	**Not expected to occur.** The BSA does not support suitable habitat for this species.
Polyphylla barbata	Mount Hermon (=barbate) June beetle	FE/None	Known only from sand hills in vicinity of Mount Hermon, Santa Cruz County	**Not expected to occur.** The BSA does not support suitable sandhill habitat for this species.
Trimerotropis infantilis	Zayante band-winged grasshopper	FE/None	Isolated sandstone deposits in the Santa Cruz Mountains (the Zayante Sand Hills ecosystem)	**Not expected to occur.** The BSA does not support suitable sandhill habitat for this species.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	**Not expected to occur.** The BSA does not support suitable habitat for this species.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	**Low potential to occur.** The BSA supports marginal suitable habitat for this species to roost. There is one CNDDB occurrences within 5 miles of the project site, a 2003 occurrence approximately 4.5 miles to the east (Occ. 113) (CDFW 2023).
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels.	**Low potential to occur.** The BSA supports marginal suitable habitat for this species to roost. There no CNDDB occurrences within 5 miles of the project site (CDFW 2023).

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	None/SSC	Forest habitats with a moderate canopy and moderate to dense understory	**Low potential to occur.** The BSA supports marginal suitable habitat for this species but lacks density of canopy or understory. There is 1 CNDDB occurrence of this species within 5 miles, a 2014 occurrence approximately 3.4 miles southeast of the project site (CDFW 2023).
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Not expected to occur.** The BSA does not support suitable habitat for this species.
Reptiles				
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	**Not expected to occur.** The BSA does not support suitable habitat for this species.
Thamnophis sirtalis tetrataenia	San Francisco garter snake	FE/FP, SE	Wide range of habitats including grasslands or wetlands adjacent to ponds, marshes, and sloughs	**Not expected to nest or forage.** The BSA is outside of the known distribution of this species.

Status Legend
Note: BSA = Biological Study Area
Federal
BCC: USFWS—Birds of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FPD: Federally proposed for delisting
FPT: Federally proposed for listing as threatened
FT: Federally listed as threatened
State
FP: CDFW Fully Protected species
SCD: State candidate for delisting
SCE: State candidate for listing as endangered
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
WL: CDFW Watch List species

Appendix C
Archaeological Resources Assessment

July 10, 2023 15045

Georgina King, P.G., C.Hg.
Montgomery & Associates
1970 Broadway, Suite 225
Oakland, CA

Subject: Archaeological Resources Assessment for the Scotts Valley Water District Grace Way Well Project, City of Scotts Valley, Santa Cruz County, California

Dear Ms. King:

Dudek has completed a Phase I archaeological assessment for the proposed Scotts Valley Water District (SVWD) Grace Way Well Project (Project) on a 14,200-square foot parcel near the intersection of Scotts Valley Drive and Willis Road in the City of Scotts Valley (5297 Scotts Valley Drive; Assessor's Parcel Number 022-03-113). The Project includes a new groundwater production well and related infrastructure.

The assessment included a records search of the California Historical Resource Information System (CHRIS) for known cultural resources near the Project area, a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC), outreach to locally affiliated Native American groups, and an intensive pedestrian survey of the Project area for evidence of unknown cultural resources. The purpose of the assessment was to determine if any potentially significant cultural resources are present that might be impacted by the Project under the California Environmental Quality Act (CEQA).

In summary, Dudek's background research found that no prehistoric or historical period resources have been documented within the Project area. The surface survey found no evidence for previously unknown cultural resources. No comments have been received from the Native American community. The archaeological sensitivity of the Project area is low. The Project will likely have no effect on significant cultural resources under CEQA. National Archaeological Database Information is provided in Attachment 1.

1 Project Description and Location

The Project would consist of drilling and equipping a 1,100-foot-deep well into the Butano and Lompico aquifers of the Santa Margarita Groundwater Basin to increase groundwater production. The following would be required for Project construction and implementation: Drilling to approximately 1,100 feet deep and installing a well screen, filter pack and sanitary screen to complete well construction. New mechanical facilities at the well site would include pump, motor, disinfection, metering, and supervisory control and data acquisition (SCADA) facilities. Off-site improvements would include multiple utility connections within the adjacent public right-of-way of Scotts Valley Drive.

The Project is located on a 14,200-square foot parcel at 5297 Scotts Valley Drive approximately 200 feet south of the intersection of Scotts Valley Drive and Willis Road in the City of Scotts Valley (Assessor's Parcel Number 022-03-113). The Project location is found on the USGS *Felton* 7.5-minute Quadrangle, a portion of which is reproduced in Figure 1.

2 Regulatory Context

State of California

The California Register of Historical Resources

In California, the term "historical resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (Public Resources Code (PRC) Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for listing resources on the CRHR, enumerated in the following text, were developed to be in accordance with previously established criteria developed for listing in the NRHP. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

(2) Is associated with the lives of persons important in our past

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

(4) Has yielded, or may be likely to yield, information important in prehistory or history

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further in the following text, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

PRC Section 21083.2(g) defines "unique archaeological resource."

PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of a historical resource.

PRC Section 21074(a) defines "tribal cultural resources."

PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.

PRC Sections 21083.2(b)–(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource, even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA [CEQA Guidelines Section 15064.5(b)(2)].

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any “historical resources,” then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource’s historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2(a), (b), and (c)).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described in the following text, these procedures are detailed in PRC Section 5097.98.

Native American Historic Cultural Sites

State law (PRC Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and established the Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Health and Safety Code section 7050.5

If Native American human remains or related cultural material are encountered, Section 15064.5(e) of the CEQA Guidelines (as incorporated from PRC Section 5097.98) and California Health and Safety Code Section 7050.5 define the subsequent protocol. If human remains are encountered, excavation or other disturbances shall be suspended at the site and any nearby area reasonably suspected to overlie adjacent human remains or related material. Protocol requires that a county-approved coroner be contacted to determine if the remains are of Native American origin. Should the coroner determine the remains to be Native American, the coroner must contact the NAHC within 24 hours. The NAHC will assign a most likely descendent, who may make recommendations to the landowner or the person responsible for the excavation work, for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98 (14 CCR 15064.5(e)).

3 Environmental Context

The Project area lies about 600 feet above sea level approximately 6.5 miles north of the Monterey Bay, and 12 miles east of the Pacific Ocean. The land in the Project vicinity is situated in a flat valley floor surrounded by foothills of the Santa Cruz Mountains. Numerous small creeks trend south through the area draining to the San Lorenzo River downstream. The closest freshwater drainage is Carbonera Creek that flows south about 100 feet east of the Project area.

Soil within the Project area is Soquel loam, 2 to 9 percent slopes (SoilWeb 2023). The soil does contain one buried A Horizon soil layer, likely due to the area being at relative a low elevation relative to the surrounding Santa Cruz Mountains. The region's native mixed hardwood forest plant community (Küchler 1977) has largely been replaced by structures, hard surfaces, ornamental trees, and grasses introduced by suburban land use development.

4 Cultural Setting

Prehistory

The prehistory of indigenous groups living within Santa Cruz County follows general patterns identified within the archaeological record of the greater Central Coast area of California. These patterns represent adaptive shifts in settlement, subsistence strategies and technological innovation demonstrated by prehistoric people throughout the Holocene and earlier. The California Central Coast Chronology (Jones et al. 2007) presents an overview of prehistoric life ranging upwards of 10,000 years. Six temporal periods describe changes in prehistoric settlement patterns, subsistence practices, and technological advances (Table 1).

Table 1. California Central Coast Chronology

Temporal Period	Date (BC-AD)	Date (BP)	Artifact Assemblage	Example Sites
Paleo-Indian (highly-mobile)	pre-8000 BC	10,000 BP or older	Isolated fluted points, sparse lithic scatters	Possibly SCL-178 and SCR-177
Millingstone/ Early Archaic (highly mobile)	8000 - 3500 BC	5,500 – 10,000 BP	Millingstones/handstones, core-cobble tools, lanceolate or large side-notched projectile points, eccentric crescents, Olivella beads: thick rectangular (L-series)	SCL-65, SCL-178, SCL-237, SCR-7, SCR-60/130, SMA-134, MNT-229
Early (sites in more varied contexts)	3500 - 600 BC	2,600 – 5500 BP	Mortar and pestle introduced, formalized flaked stone tools (Rossi Square-stemmed and Año Nuevo long-stem points), Olivella beads: Spire-lopped (A), End-ground (B2b and B2c), Cap (B4), and Rectangular (L-series)	SCL-33, SCL-178, SCL-163, SCR-7, SCR-38/123, MNT-108, MNT-238, MNT-391, MNT-1918
Middle (more long-term residences)	600 BC to AD 1000	950 – 2,600 BP	Mortars and pestles (but still some millingstone/handstones), contracting-stemmed projectile points, greater variety of Olivella shell beads, Haliotis ornaments, circular shell fishhooks, bone tools, grooved stone net sinkers	SCL-178, SCL-163, SCL-613, SCR-9, SMA-77, SMA-218, MNT-101, MNT-229, MNT-234, MNT-282
Middle-Late Transition (social reorganization)	AD 1000-1250	700 – 950 BP	Mortars and pestles (but still some millingstone/handstones), bow/arrow technology introduced, Olivella shell bead types: B2, B3, G1, G2, G6, and K1, notched net sinkers, hopper mortars, and circular shell fishhooks	SCL-690, MNT-1233, MNT-281, MNT-1754, MNT-745
Late (more permanent residential sites with additional seasonal sites)	AD 1250-1769	181 – 700 BP	Mortars and pestles (but still some millingstone/handstones), Cottonwood (or Canaliño) and Desert Side-notched arrow points, flaked stone drills, steatite and clamshell disc beads, Haliotis disc beads, Olivella bead types: E1, E2, B2, B3, G1, G6, K1 types	SCL-119/SBN-24/H, SCL-272, SCL-828, SCL-341, SCR-177, MNT-879, MNT-1765, MNT-1485/H MNT-1486/H

Paleo-Indian (10,000 BP or older)

The Paleo-Indian era represents people's initial occupation of the region. These were highly mobile hunters who focused subsistence efforts on large mammals. Multiple migrations into the region may have occurred both terrestrially and by sea (Erlandson et al. 2007). Although no coastal Paleo-Indian sites in the Central California Coast region have been discovered, they may have been inundated because of rising ocean levels throughout the Holocene (Jones and Jones 1992).

Evidence of this era is generally found through isolated artifacts or sparse lithic scatters (Bertrando 2004). In the San Luis Obispo area, fluted points characterizing this era are documented near the town of Nipomo (Mills et al. 2005) and Santa Margarita (Gibson 1996), but so far, no fluted points have been found in the Central Coast north of the Santa Barbara area. Possible evidence for Paleo-Indian occupation is reported in buried contexts in CA-SCL-178 in the Santa Clara Valley and at CA-SCR-177 in Scotts Valley (Cartier 1993). The early radiocarbon dates from charcoal, however, pose questions of validity (Jones et al. 2007).

Millingstone (5,500 – 10,000 BP)

Settlement in the Central Coast appears with more frequency in the Millingstone Period. Sites of this era have been discovered in Big Sur (Jones 1993; Jones 2003; Fitzgerald and Jones 1999), Moss Landing (Dietz et al. 1988; Jones and Jones 1992; Milliken et al. 1999), Watsonville (Culleton et al. 2005) and in the Coyote Creek area of Santa Clara (Hildebrandt and Mikkelsen 1993). Like the Paleo-Indian era, people living during the Millingstone era were likely highly mobile. Assemblages are characterized by abundant millingstones and handstones, cores and core-cobble tools, thick rectangular (L-series) Olivella beads, and a low incidence of projectile points, which are generally lanceolate or large side-notched varieties (Jones et al. 2007). Eccentric crescents are also found in Millingstone components. Sites are often associated with shellfish remains and small mammal bone, which suggest a collecting-focused economy. Stable isotope studies on human bone, from a coastal Millingstone component at CA-SCR-60/130, indicate a diet composed of 70%–84% marine resources (Newsome et al. 2004). Contrary to these findings, deer remains are abundant at other Millingstone sites (cf. Jones et al. 2008), which suggests a flexible subsistence focus.

Early (2,600 – 5500 BP)

The Early Period corresponds with the earliest era the “Hunting Culture” which continues through the Middle-Late Transition (Rogers 1929). The Early Period is marked by a greater emphasis on formalized flaked stone tools, such as projectile points and bifaces, and the initial use of mortar and pestle technology. Early Period sites are in more varied environmental contexts than millingstone sites, suggesting more intensive use of the landscape than practiced previously (Jones and Waugh 1997).

Early Period artifact assemblages are characterized by Large Side-notched points, Rossi Square-stemmed points, Spire-lopped (A), End-ground (B2b and B2c), Cap (B4), and Rectangular (L-series) Olivella beads. Other artifacts include less temporally diagnostic Contracting-stemmed and Año Nuevo long-stemmed points, and bone gorges. Ground stone artifacts are less common relative to flaked stone tools when compared with Millingstone-era sites.

Early Period sites are common and often found in estuary settings along the coast or along river terraces inland. Coastal sites dating to this period include CA-MNT-108 (Breschini and Haversat 1992a), CA-SCR-7 (Jones and Hildebrandt 1990), and CA-SCR-38/123 (Bryne 2002, Jones and Hildebrandt 1994). Inland sites include CA-SCL-33, CA-SCL-178 and CA-SCL-163 (Hildebrandt and Mikkelsen 1993).

Archaeologists have long debated whether the shift in site locations and artifact assemblages during this time represent either population intrusion because of mid-Holocene warming trends, or an in-situ adaptive shift (cf. Mikkelsen et al. 2000). The initial use of mortars and pestles during this time appears to reflect a more labor-intensive economy associated with the adoption of acorn processing (cf. Basgall 1987).

Middle (950 – 2,600 BP)

The trend toward greater labor investment is apparent in the Middle Period. During this time, there is increased use of plant resources, more long-term occupation at habitation sites, and a greater variety of smaller “use-specific” localities. Artifacts common to this era include Contracting-stemmed projectile points, a greater variety of Olivella shell beads and Haliotis ornaments that include discs and rings (Jones 2003). Bone tools and ornaments are also common, especially in the richer coastal contexts (Jones and Ferneau 2002a; Jones and Waugh 1995), and circular shell fishhooks are present for the first time. Grooved stone net sinkers are also found in coastal sites. Mortars and pestles become more common than millingstones and handstones at some sites (Jones et al. 2007). Important Middle Period sites include CA-MNT-282 at Willow Creek (Jones 2003; Pohorecky 1976), CA-SCR-9 in the Santa Cruz Mountains (Hylkema 1991), CA-SMA 218 at Año Nuevo (Hylkema 1991), CA-SCL-613 at San Francisquito Creek, and a continued presence at SCL-178, SCL-163 (Rosenthal and Meyer 2004).

The Middle Period is a continuation of the “Hunting Culture” because of the greater emphasis on labor-intensive technologies that include projectile and plant processing (Jones et al. 2007; Rogers 1929). Additionally, faunal evidence highlights a shift toward prey species that are more labor intensive to capture, either by search and processing time or technological needs. These labor-intensive species include small schooling fishes, sea otters, rabbits, and plants such as acorn. Early and Middle Period sites are difficult to distinguish without shell beads due to the similarity of artifact assemblages (Jones and Haney 2005).

Middle-Late Transition (700 – 950 BP)

The Middle-Late Transition corresponds with the end of the “Hunting Culture” (Rogers 1929). It also corresponds with social reorganization across the region due to a period of rapid climatic change known as the Medieval Climatic Anomaly (cf. Stine 1994). The Medieval Climatic Anomaly is characterized by drastic fluctuations between cool-wet and warm-dry climatic conditions (Jones et al. 1999). Archaeological sites are rarer during this period, which may reflect a decline in regional population (Jones and Ferneau 2002b). Artifacts associated with the Middle-Late Transition include contracting-stemmed, double side-notched, and small leaf-shaped projectile points. The latter are thought to represent the introduction of bow and arrow technology to the region. A variety of Olivella shell bead types are found in these deposits and include B2, B3, G1, G2, G6, and K1 varieties, notched line sinkers, hopper mortars, and circular shell fishhooks (Jones 1995; Jones et al. 2007). Sites that correspond with this time are CA-MNT-1233 and CA-MNT-281 at Willow Creek (Pohorecky 1976), CA-MNT-1754, and CA-MNT-745 in Priest Valley (Hildebrandt 2006) and CA-SCL-690 in San Jose (Hylkema 2007).

Late (181 – 700 BP)

Late Period sites are found in a variety of environmental conditions and include newly occupied task sites and encampments, as well as previously occupied localities. Artifacts associated with this era include Cottonwood (or Canaliño) and Desert Side-notched arrow points, flaked stone drills, steatite and clamshell disc beads, Haliotis disc beads, Olivella bead types E1 and E2, and earlier used B2, B3, G1, G6, and K1 types. Millingstones, handstones, mortars, pestles, and circular shell fishhooks also continue to be used (Jones et al. 2007). Sites dating to this era are found in coastal and interior contexts. Coastal sites dating to the Late Period tend to be resource acquisition or processing sites, while evidence for residential occupation is more common inland (Jones et al. 2007). Late Period sites include CA-MNT-143 at Asilomar State Beach (Brady et al. 2009), CA-MNT-1765 at Moro Cojo Slough (Fitzgerald et al. 1995), CA-MNT-1485/H and -1486/H at Rancho San Carlos (Breschini and Haversat 1992b), and CA-SCR-117 at Davenport Landing (Fitzgerald and Ruby 1997).

Ethnography

The terminal Late Period coincides with the beginning of the Spanish colonization effort in 1769. At that time many tribelets of the Ohlone language group maintained separate territories and spoke dialectically distinct languages. Milliken (1995) associates the area in the vicinity of the Project with the Sayanta people that "held the Scotts Valley area and the Glenwood and Laural areas to the north and east, all in ocean-facing watersheds" (Milliken 1995 p 253).

History

Spanish Period (1770–1822)

Spain, England, and Russia sponsored the initial European exploration of California by sending ships to navigate the coastline in search of areas suitable to colonize or to identify the illusive Northwest Passage. These explorers include Juan Rodríguez Cabrillo (1542) and Sebastián Vizcaíno (1602) of Spain, and Sir Francis Drake (1579) of England. In 1769, Spain sent an overland exploratory mission, led by Don Gaspar de Portolá and Padre-Presidente, Junípero Serra, to establish missions within Spanish-held Alta California.

Eventually twenty-two Spanish missions were established in Alta California that drastically altered the lifeways of the Native Americans. The local Sayanta people lived in the vicinity of the Project area and were influenced most by Mission Santa Cruz, established in 1791 and completed in 1794. A total of 69 Sayanta were baptized at the Mission (Milliken 2005). The Ohlone tribal groups were pressed into service as "neophytes," and forced to build the missions and auxiliary structures from local timber, limestone, and adobe, as well as to cultivate wheat, barley, beans, corn, and lentils for the mission Padres and soldiers. The Spanish also established secular villages, such as El Pueblo de San José de Guadalupe (1777), now the City of San Jose, and Villa de Branciforte (1797), which became part of the City of Santa Cruz.

Mexican Period (1822–1846)

When Mexico won independence from Spain in 1821. The newly established Mexican government secularized the missions in Alta California and offered extensive land grants to the citizens of Alta California (Conway 2003). During this time, the ranching industry fueled the economy with the trade of cattle hides and tallow, although timber was also important to the region. Most land grant land was used for raising cattle and sheep. In 1833, the Mexican Governor granted the *Rancho San Augustin* to Jose Antonio Bolcoff. The rancho, which included what is now Scotts Valley, raised livestock and crops such as wheat and barley.

In 1842, California Governor Alvarado and General Vallejo, who managed Alta California, declared California independent and waged war with Mexico in 1845. The Mexican American War concluded in 1848 with the signing of the Treaty of Guadalupe-Hidalgo, just days before the announcement of the gold discovery at Sutter's Mill (Munro-Fraser 1881; Sawyer 1922).

American Period (post 1846)

California held its first constitutional convention in Monterey in September of 1849, resulting in the creation of regional counties in California. Santa Cruz was designated as one of California's 27 original counties on February 18, 1850, shortly before California officially became a state (Cleland 2005; Waugh 2003).

City of Scotts Valley

Also in 1850, Hiram Daniel Scott purchased *Rancho San Augustin*. For 15 years, the Scott family farmed and ranched the land, selling the property to Joseph and Grace Errington in 1865. The Erringtons established the first dairy ranch in Scotts Valley. Over time they deeded and sold portions of the ranch, reducing its size to 732 acres. The Erringtons sold 290 acres to George Edwin Scott, brother of Hiram, who also established a dairy ranch. The trend of partitioning the land into increasingly smaller parcels continued into the 20th century as the population of Scotts Valley increased and diversified its livelihood beyond agriculture. The City of Scotts Valley was incorporated in 1966 (Scotts Valley Town Center Specific Plan EIR 2013).

5 CHRIS Records Search Results

To identify cultural resources potentially affected by the Project, Dudek defined a records search study area that included the Project area and a 0.25-mile radius for resources and cultural studies. On June 7, 2023, Charles Mikulik, conducted a CHRIS records search at the Northwest Information Center (NWIC) at Sonoma State University (NWIC File No. 22-1905). Additional sources consulted included the National Register of Historic Places (NRHP), CRHR, and the OHP Archaeological Determinations of Eligibility.

Previously Identified Cultural Resources

There are no previously recorded cultural resources that intersect the Project area. There is one recorded resource outside the Project area but within the 0.25-mile study area radius (Table 2; Attachment 2). The one resource is Highway 17 within Santa Cruz County (P-44-000402).

Table 2. Recorded Cultural Resources within the Records Search Study Area

NWIC Primary Number	Trinomial	Name	Resource Type	Age	Attributes
Within the Project Area (none)					
Within 0.25 miles of the Project Area (n=1)					
P-44-000402	CA-SCR-330H	Highway 17 (Santa Cruz County)	Structure	Historic	HP37

Previously Conducted Studies

NWIC results show there are four previously conducted cultural studies with coverage that intersects the Project Area. The four relevant reports are discussed below in Table 3. There are 18 additional studies with coverage beyond the Project area but within the 0.25-mile records search radius (Table 3; Attachment 2).

Table 3. Previous Cultural Studies within the Records Search Study Area

NWIC Primary Number	Author(s)	Year	Title	Publisher
Within the Project Area (n=4)				
S-3913	William Roop, Leo Barker, and Charlene Detlefs	1977	Cultural Resource Inventory of the Scotts Valley Wastewater Project Service Area	Archaeological Resource Service
S-3913a	Leo Barker and Charlene Detlefs	1977	Historical Synopsis and Site Inventory of Scotts Valley	-
S-8313	Robert Cartier, Charlene Detlefs, and Glory Laffey	1980	Cultural Resource Evaluation of the Scotts Valley Redevelopment Area in the City of Scotts Valley, County of Santa Cruz	Archeological Resource Management
S-20176	Robert Cartier	1998	Cultural Resource Evaluation of the Scotts Valley Drive Reconstruction Project in the City of Scotts Valley, California, in Fulfillment of CEQA Requirements	Archeological Resource Management
Within 0.25 miles of the Project Area (n=18) (Attachment 2)				

S-3913

This report summarizes findings from a general survey of the Scotts Valley wastewater service area as it existed in 1977 (Roop et al. 1977), a boundary comparable to the Scotts Valley city limits. The report includes results from a general surface reconnaissance with approximately 75 percent visual coverage. The survey included all the Project area and described 19 historic sites in Scotts Valley. No extant resources were reported near the Project area.

S-3913a

S-3913a is a sketch of the history of Scotts Valley prepared as a context for the 19 historic sites in Scotts Valley described in S-3913 (Barker and Detlefs 1977). No addition survey results were included in the subsequent study.

S-8313

This report includes survey results and archival research for the 925-acre Scotts Valley Redevelopment Area within the City of Scotts Valley city limits (Cartier et al. 1980). The 19 historic sites discussed in S-3913 and S-3913a are noted and five additional historical period sites were reported. None of the reported sites are near the Project area.

S-20176

S-20176 is a survey report conducted in support of a project to redevelop Scotts Valley Drive from Bean Creek Road to Victor Square (Cartier 1998). Cartier reported that the survey produced evidence of two prehistoric resources near Scotts Valley Drive: prehistoric site CA-SCR-249 about 0.75 miles south of the Project area, and isolated stone artifacts just south of El Pueblo Road approximately 0.3 miles south of the Project area. Cartier did not record any new sites as a result of the survey.

6 Sacred Lands File Search and Native American Outreach

On June 25, 2023, Dudek requested a SLF search from the NAHC for the Project area. On June 26, 2023. NAHC responded with *negative* results for the SLF search. The NAHC also sent a list of six (6) locally affiliated Native American contacts for the Project vicinity. On July 6, 2023, Dudek sent information request letters to all 6 Native American contacts. As of the date of this report, Dudek has not received any responses from the Native American contacts. If responses are received, Dudek will forward that information in a report addendum. The SLF results and the Native American outreach effort are documented in Attachment 3.

7 Site Survey

Methods

On June 15, 2023, Dudek archaeologist, John Schlagheck, MA, RPA, conducted a pedestrian survey on all accessible land within the Project area. The reconnaissance was an intensive surface survey that included careful inspection for prehistoric and historical period cultural materials, as well as topographic indicators and soil characteristics that might be evidence of subsurface cultural materials. Where partially exposed soil was encountered, small hand tools were used to increase soil visibility by removing light vegetation, duff, and imported materials such as wood chips.

Results

Other than the main commercial structure in the eastern (front) portion of the parcel facing Scotts Valley Drive and one small ancillary structure, the lot is relatively clear of structures and modern hard surfaces. Exposed soil was present in the central and western portions of the parcel that allowed for good access to the ground surface. The observed soil was a light to medium brownish gray silt and sand that likely represents native soil thoroughly mixed with imported material related to construction and maintenance of the existing buildings as well as structures on adjacent parcels and Grace Way along the rear of the property.

Dudek found no evidence for cultural resources during the survey. No evidence for use of the property during prehistoric times (such as charred faunal remains, marine shell, fire affected rock, or charcoal) was observed. Modern debris, including plastic, wood, and glass fragments, was observed in numerous locations. Photographs taken of the Project area during the survey are included in Attachment 4.

8 Summary

Dudek's background research found no prehistoric or historical period archaeological resources within the Project area or close enough to the Project area to be resources of concern. The survey of the Project area was uniformly negative for evidence of previously unknown resources. The NAHC indicated negative results from the SLF search. No additional information has been obtained through the outreach effort to the Native American Community.

9 Conclusions and Recommendations

Based on the results of the assessment, the potential for encountering previously unknown potentially significant prehistoric or historical period resources during the planned construction is low. No further effort regarding identification of cultural resources in the Project area is recommended.

Ground disturbing construction activities should proceed under a plan that accounts for the inadvertent discovery of potentially significant archaeological resources and human remains. Dudek recommends the following language, or equivalent, be part of the Project's conditions compliance effort moving forward:

1. If archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, immediately stop all construction work occurring within 100 feet of the find until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find. The archaeologist will determine whether additional study is warranted. Should

it be required, the archaeologist may install temporary flagging around a resource to avoid any disturbances from construction equipment. Depending upon the significance of the find under CEQA (14 CCR 15064.5[f]; California Public Resources Code, Section 21082), the archaeologist may record the find to appropriate standards (thereby addressing any data potential) and allow work to continue. If the archaeologist observes the discovery to be potentially significant under CEQA, preservation in place or additional treatment may be required.

2. In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, immediately notify the lead agency and the Santa Cruz County Coroner of the discovery. The coroner will decide the nature of the remains within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, can occur until a determination has been made. If the County Coroner determines that the remains are, or are believed to be, of Native American ancestry, the coroner will notify the Native American Heritage Commission within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the Native American Heritage Commission will appoint a Most Likely Descendant (MLD), who will be authorized to provide recommendation to the lead agency regarding the preferred treatment of the remains and any associated objects and/or materials.

Should you have any questions relating to this report and its findings please do not hesitate to contact me directly.

Sincerely,

John P. Schlagheck, M.A., RPA
Archaeologist
DUDEK
Direct: (831) 212-3886
Email: jschlagheck@dudek.com

Figure 1. Project Location Map

Figure 2. Project Area Map

Attachment 1. National Archaeological Database Information

Attachment 2. CHRIS Records Search Results

Attachment 3. Sacred Lands File Search Results and Native American Outreach

Attachment 4. Project Photos

cc: *Micah Hale, Ph.D., Dudek*
Ryan Brady, Dudek

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SOURCE: ESRI 2023, County of Santa Cruz 2022

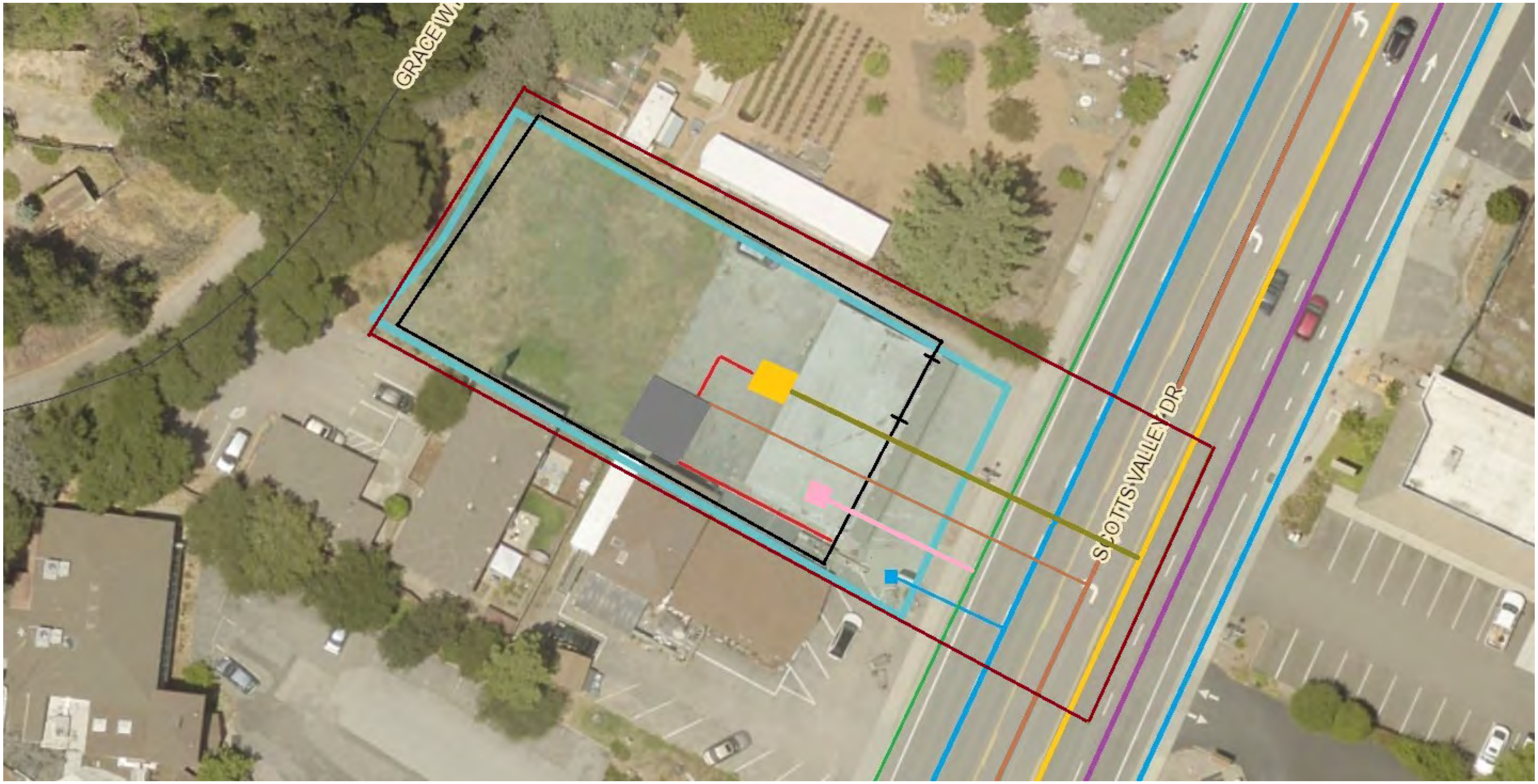
DUDEK

0 250 500 Feet

FIGURE 1

Project Location

Grace Way Well Project



Existing Treated Water Main
Existing Raw Water Main
Existing Recycled Water Main
Existing Storm Drain
Existing Water Meter
Existing Sanitary Sewer
Proposed Production Well

Proposed Electrical Conduit
Proposed Pump Control Building
Proposed Sewer Connection
Proposed Fence
Proposed Gate
Proposed Raw Water Lateral
Proposed Strom Drain Lateral

Disturbance Area
Parcel Boundary

Figure 2
Project Site and Proposed Improvements
Grace Way Well Project

Attachment 1

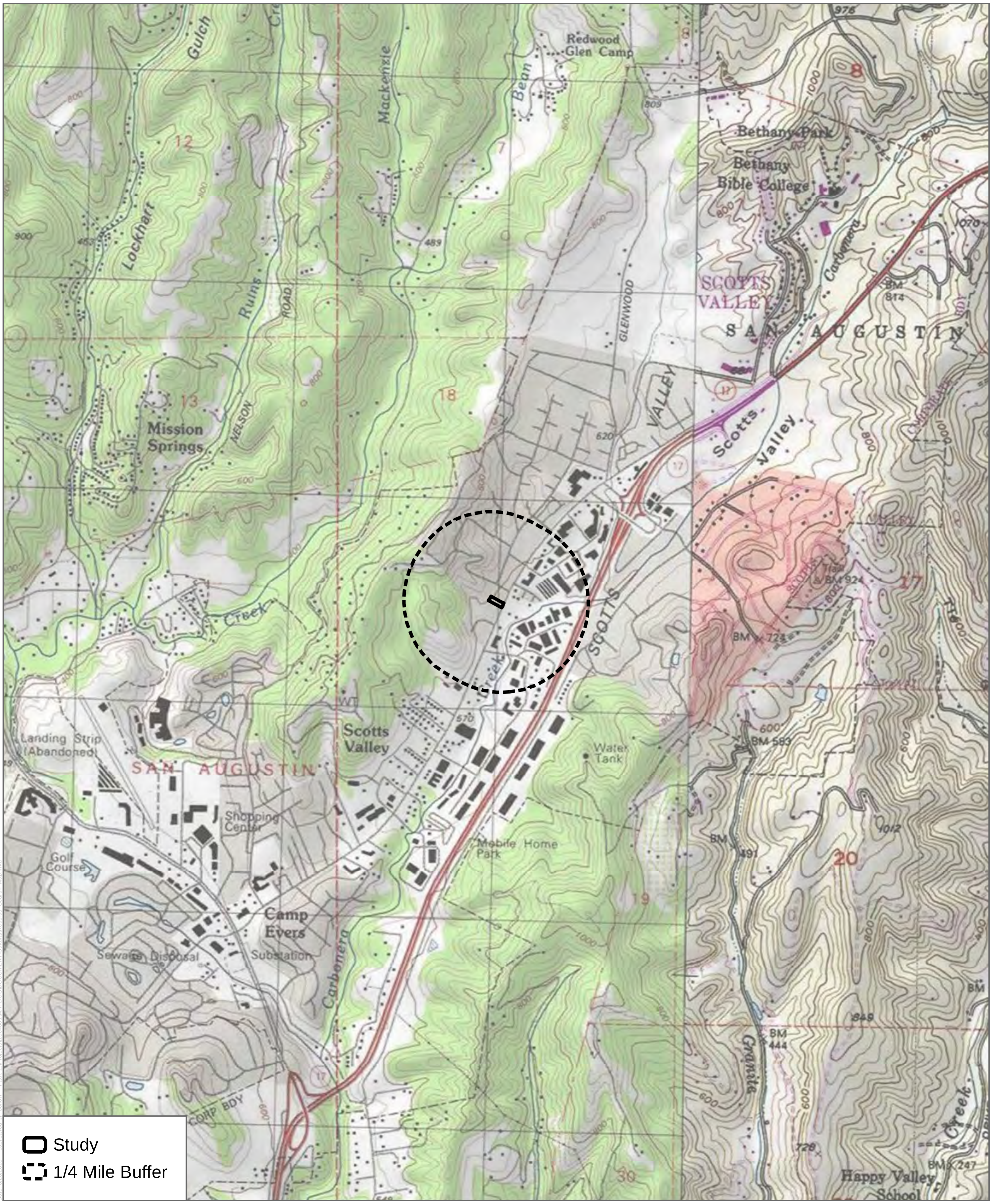
National Archaeological Database Information

NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

Authors:	John P. Schlagheck, MA, RPA
Firm:	Dudek
Project Proponent:	Scotts Valley Water District
Report Date:	July 2023
Report Title:	Phase I Archaeological Assessment for the Scotts Valley Water District Grace Way Well Project, City of Scotts Valley, Santa Cruz County, California
Type of Study:	Phase I Archaeological Assessment (letter report)
Resource(s):	None
USGS Quads:	7.5-minute *Felton* Quad
Acreage:	14,200 square feet
Permit Numbers:	Permit Pending
Keywords:	Archaeological survey, archaeological assessment

Attachment 2

CHRIS Records Search Results



SOURCE: USGS 7.5-Minute Series Felton Quadrangle
Township 10S; Range 1W; Sections 18

DUDEK

0 1,000 2,000 Feet
0 285 570 Meters
1:24,000

Records Search

Grace Way Well Project

CMAC CHRIS RECORDS SEARCH WORKSHEET
NWIC File No. 22-1905 (Completed 6/7/23)

County: Santa Cruz

Project: Scotts Valley Water District Grace Way Well Project Phase I Archaeological Assessment

Attention: John Schlagheck, Dudek
Information Center: NWIC
Quad Map: *Felton*
Records Search Extent/Radius Resources: 0.25 miles
Records Search Extent/Radius Studies: 0.25 miles

Resources intersecting PA: None

Resources outside the PA but within the 0.25-mile radius: 1 (P-44-000402).

Studies intersecting PA: 4 (S-3913, S-3913a, S-8313, S-20176)

Studies outside the PA but within the 0.25-mile radius: 18 (S-4105, S-6903, S-7603, S-8002, S-10184, S-10189, S-10294, 10341, 10378, S-10848, S-11052, S-11052a, S-11371, 13340, 13356, S-16354, S-17380, S-20166)

Resources List

NWIC Primary Number	Trinomial	Name	Resource Type	Age	Attributes
Within the Project Area (none)					
Within 0.25 miles of the Project Area (n=1)					
P-44-000402	CA-SCR-330H	Highway 17 (Santa Cruz County)	Structure	Historic	HP37

Report List

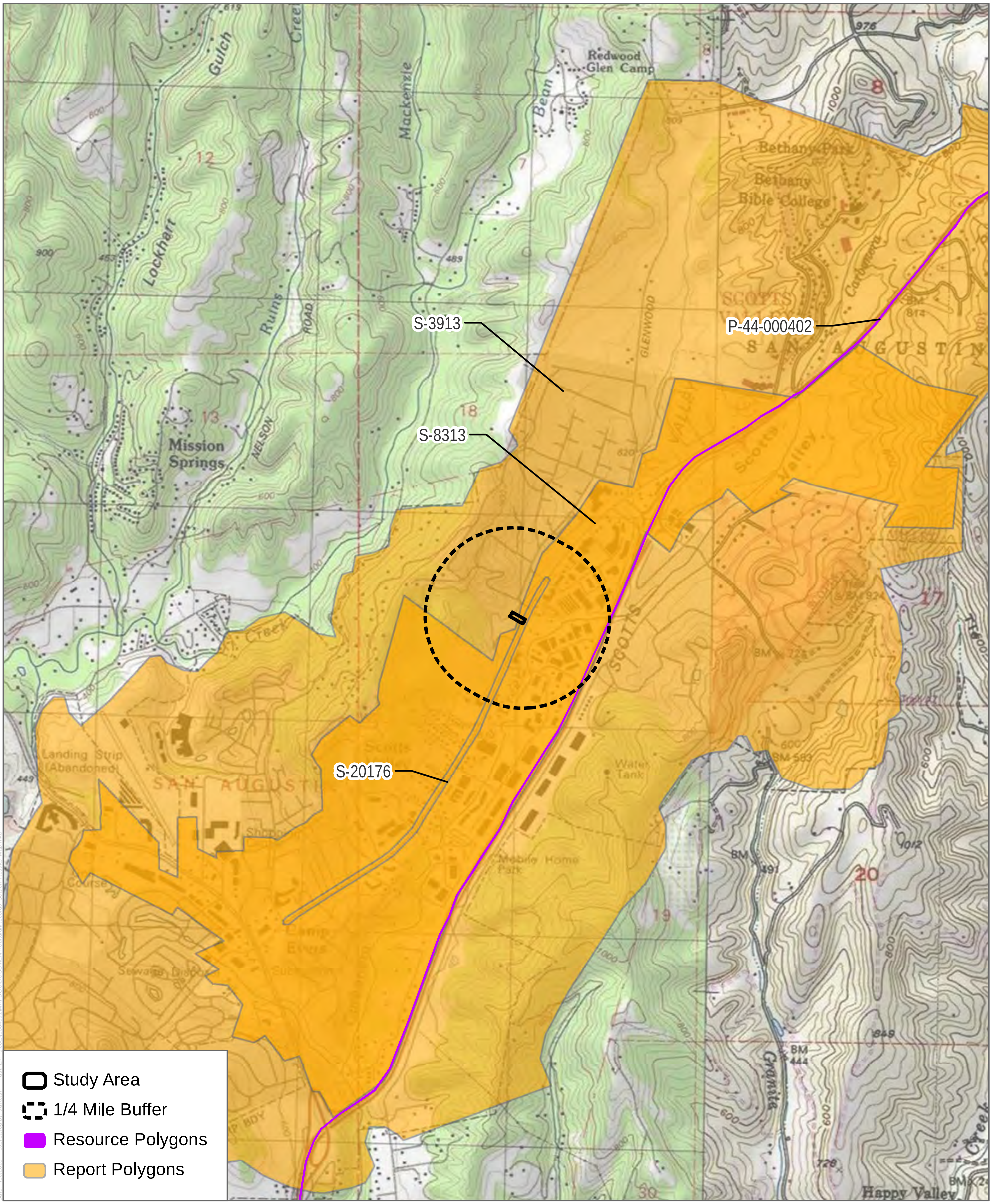
Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-003913	Voided - E-167 SCR	1977	William Roop, Leo Barker, and Charlene Detlefs	Cultural Resource Inventory of the Scotts Valley Wastewater Project Service Area	Archaeological Resource Service	44-000039, 44-000083, 44-000092, 44-000179, 44-000237, 44-000240, 44-000348, 44-001229
S-003913a		1977	Leo Barker and Charlene Detlefs	Historical Synopsis and Site Inventory of Scotts Valley		
S-004105	Voided - E-360 SCR	1980	Suzanne Baker	Archaeological Reconnaissance of Carbonero Creek Erosion Control Project, Scotts Valley, California (Order Number 40-9104-1-5)	Archaeological Consultants	
S-006903		1984	Randy S. Wiberg	An Archaeological Reconnaissance of the RJS Office Center Project Area, City of Scotts Valley, Santa Cruz County, California	Holman & Associates	
S-007603	Submitter - AC Project 730	1985	R. Paul Hampson and Gary S. Breschini	Preliminary Cultural Resources Reconnaissance of Assessors Parcel Number 22-071-53, in Scotts Valley, Santa Cruz County, California	Archaeological Consulting	
S-008002		1986	Rebecca Loveland Anastasio and James F. Thomas	A Cultural Resources Assessment of APN 22-041-04, 5274 Scotts Valley Drive, Santa Cruz County, California.	Basin Research Associates, Inc.	
S-008313	Voided - E-375 SCR	1980	Robert Cartier, Charlene Detlefs, and Glory Laffey	Cultural Resource Evaluation of the Scotts Valley Redevelopment Area in the City of Scotts Valley, County of Santa Cruz	Archeological Resource Management	44-000039, 44-000179, 44-000237, 44-000238, 44-000239, 44-000240, 44-000241, 44-001229
S-010184		1988	Robert Cartier	Cultural Resource Evalaution of a Parcel on Willis Road in the City of Scotts Valley, County of Santa Cruz	Archeological Resource Management	
S-010189		1988	Robert Cartier	Cultural Resource Evaluation of a Parcel on Grace Way in the City of Scotts Valley, County of Santa Cruz	Archeological Resource Management	
S-010294	Submitter - AC Project 1283	1988	Charles R. Smith and Gary S. Breschini	Preliminary Cultural Resources Reconnaissance of Parcels APN 23-181-14 &-15, between Augustine and Grace Ways, Scotts Valley, Santa Cruz County, California	Archaeological Consulting	
S-010341	Submitter - AC Project 1300	1988	Charles R. Smith and Gary S. Breschini	Preliminary Cultural Resources Reconnaissance of Parcel APN 22-061-19, 60 Old El Pueblo Dr., Scotts Valley, Santa Cruz County, California	Archaeological Consulting	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-010378		1988	Larry Bourdeau	Results of Phase I Archaeological Reconnaissance with Recommendations for Cultural Resource Management, Jim Eberhardt Project Parcel, APN 22-022-20, 5319 Scotts Valley Drive, Scotts Valley, Santa Cruz County, California	Pacific Museum Consultants	
S-010848		1989	Robert Cartier	Cultural Resource Evaluation of Property on Grace Way in the City of Scotts Valley, County of Santa Cruz	Archaeological Resource Management	
S-011052	Voided - S-11453	1989	Larry Bourdeau	Results of Phase I Archaeological Reconnaissance with Recommendations for Cultural Resource Management, Marilyn Bergman Project Parcel, APN 23-201-07, Grace Way at York Road, City of Scotts Valley, Santa Cruz County, California	Pacific Museum Consultants	
S-011052a		1990	Larry Bourdeau	Results of Archaeological Inspection with Recommendations for Cultural Resource Management, Marlyn Bergman Project Parcel, APN 23-201-07, Grace Way at York Road, City of Scotts Valley, Santa Cruz County, California	Pacific Museum Consultants	
S-011371		1989	Robert Cartier	Cultural Resource Evaluation of 13 Janis Way in the City of Scotts Valley, County of Santa Cruz	Archaeological Resource Management	
S-013340		1991	Robert Cartier	Cultural Resource Evaluation for a Parcel of Land in the City of Scotts Valley, County of Santa Cruz	Archaeological Resource Management	
S-013356		1991		Cultural Resource Evaluation for 11 Janis Way in the City of Scotts Valley, County of Santa Cruz	Archaeological Resource Management	
S-016354		1990	Glory Anne Laffey, Marion Pokriots, Charlene Detlefs, Leslie Hurst, and Edith Smith	Evaluation of Potential Historic Structures in the City of Scotts Valley	Archives & Architecture	
S-017380		1995	Larry F. Bourdeau	Results of Phase I Archaeological Reconnaissance with Recommendations for Cultural Resource Management, APN 022-022-19, 104 San Augustine Way, City of Scotts Valley, Santa Cruz County, California	Pacific Museum Consultants	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-020166		1998	Robert Cartier	Cultural Resource Evaluation for 17 Acres of Land Located on Scotts Valley Drive in the City of Scotts Valley, County of Santa Cruz	Archaeological Resource Management	
S-020176		1998	Robert Cartier	Cultural Resource Evaluation of the Scotts Valley Drive Reconstruction Project in the City of Scotts Valley, California, in Fulfillment of CEQA Requirements	Archaeological Resource Management	44-000251



SOURCE: USGS 7.5-Minute Series Felton Quadrangle
Township 10S; Range 1W; Sections 18

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Records Search Results Map

Grace Way Well Project

Attachment 3

Sacred Lands File Search & Native American Outreach

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100West Sacramento, CA 95691
916-373-3710
916-373-5471 Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Date: 5/25/23

Project Name: Dudek 15045: Scotts Valley Water District Grace Way Production Well

County: Santa Cruz

USGS Quad Name: *Felton*

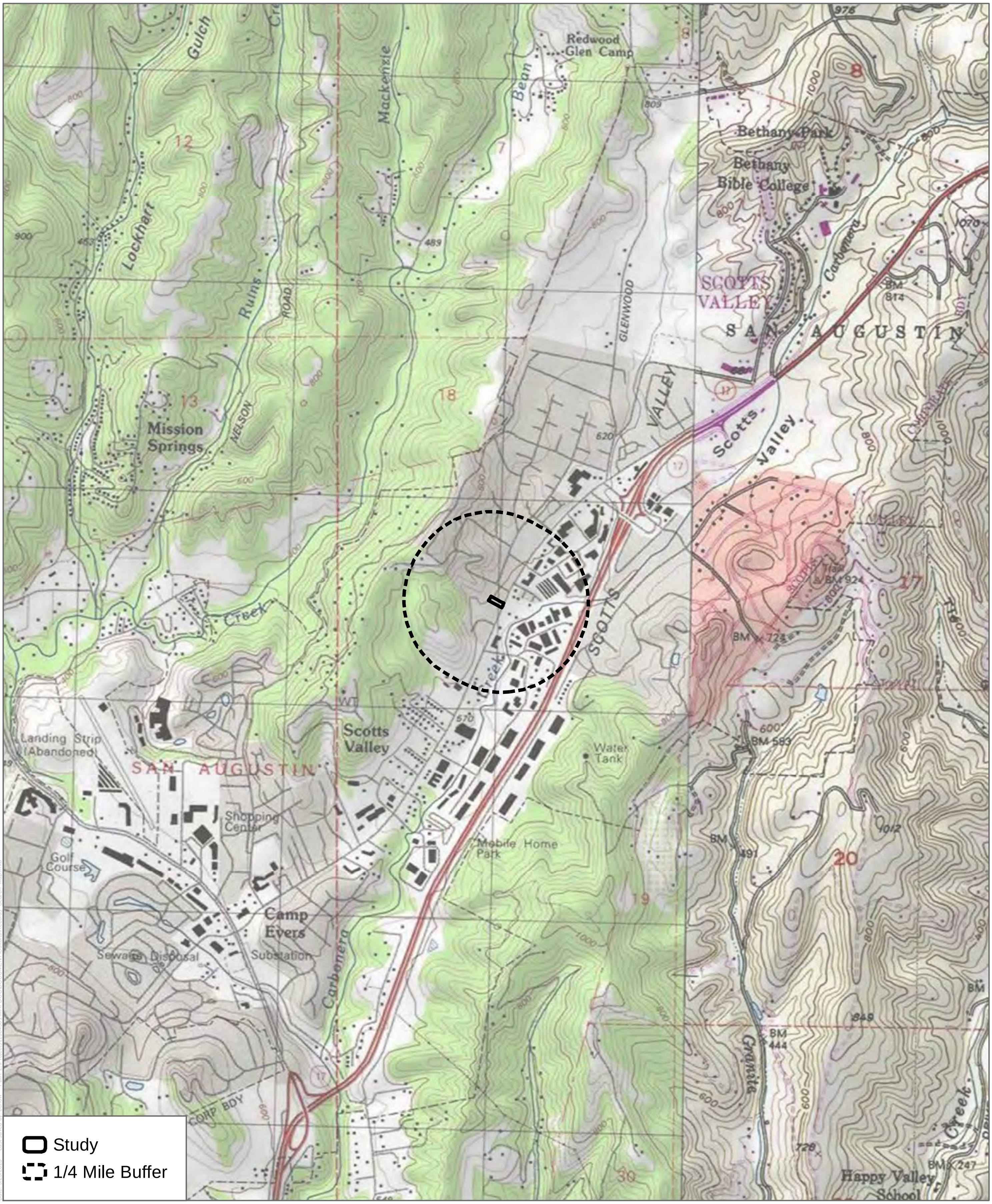
Township: 10S; **Range:** 01W; **Section(s):** 18

Company Name and Contact Information:

Dudek
725 Front Street Suite 400
Santa Cruz, CA 95060
(831) 212-3886
jschlagheck@dudek.com

Project Description:

The Scotts Valley Water District (SVWD) proposes to construct and operate one new groundwater extraction well on SVWD-owned property comprising a single parcel (Assessor's Parcel Number [APN] 022 031 13) at 5297 Scotts Valley Drive, Scotts Valley, California. The project would specifically include one 1,000-foot-deep groundwater production well; a concrete block building for pump controls; utility connections for raw water, stormwater, sewer, and electrical service; and associated site improvements.



SOURCE: USGS 7.5-Minute Series Felton Quadrangle
Township 10S; Range 1W; Sections 18

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Records Search
Grace Way Well Project

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

June 26, 2023

John Schlagheck
Dudek

Via Email to: jschlagheck@dudek.com

Re: Dudek 15045: Scotts Valley Water District Grace Way Production Well Project, Santa Cruz County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Santa Cruz County
6/26/2023
*Federally Recognized Tribe

Amah Mutsun Tribal Band Valentin Lopez, Chairperson P.O. Box 5272 Galt, CA, 95632 Phone: (916) 743 - 5833 vlopez@amahmutsun.org	Costanoan Northern Valley Yokut
Amah MutsunTribal Band of Mission San Juan Bautista Irene Zwierlein, Chairperson 3030 Soda Bay Road Lakeport, CA, 95453 Phone: (650) 851 - 7489 Fax: (650) 332-1526 amahmutsuntribal@gmail.com	Costanoan
Costanoan Ohlone Rumsen-Mutsen Tribe Patrick Orozco, Chairman 644 Peartree Drive Watsonville, CA, 95076 Phone: (831) 728 - 8471 yanapvoic97@gmail.com	Ohlone
Indian Canyon Mutsun Band of Costanoan Ann Marie Sayers, Chairperson P.O. Box 28 Hollister, CA, 95024 Phone: (831) 637 - 4238 ams@indiancanyon.org	Costanoan
Indian Canyon Mutsun Band of Costanoan Kanyon Sayers-Roods, MLD Contact 1615 Pearson Court San Jose, CA, 95122 Phone: (408) 673 - 0626 kanyon@kanyonkonsulting.com	Costanoan
Wuksachi Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas, CA, 93906 Phone: (831) 443 - 9702 kwood8934@aol.com	Foothill Yokut Mono

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Dudek 15045: Scotts Valley Water District Grace Way Production Well Project, Santa Cruz County.

July 6, 2023 15045

Mr. Patrick Orozco, Chairman [letter typical: see NAHC list of contacts for complete list of addressees]
Costanoan Ohlone Rumsen-Mutsen Tribe
644 Peartree Dr.
Wasonville, CA 95076

Subject: Scotts Valley Water District Grace Way Production Well , Santa Cruz County, California - Native American Outreach

Dear Mr. Orozco,

The Scotts Valley Water District (SVWD) proposes to construct and operate one new groundwater extraction well on SVWD-owned property comprising a single parcel (Assessor's Parcel Number [APN] 022 031 13) at 5297 Scotts Valley Drive, Scotts Valley, California. The project would specifically include one 1,000-foot-deep groundwater production well; a concrete block building for pump controls; utility connections for raw water, stormwater, sewer, and electrical service; and associated site improvements.

As part of our efforts to identify cultural resources that may be affected by the project, Dudek, on behalf of SVWD, is reaching out to Native American tribes with local knowledge of the Project vicinity. Dudek requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC). The NAHC found negative results for the SLF search and provided us your contact as someone who may have additional information regarding cultural resources or sacred sites in the vicinity. Any information you provide will remain confidential and be used for planning purposes for this project only.

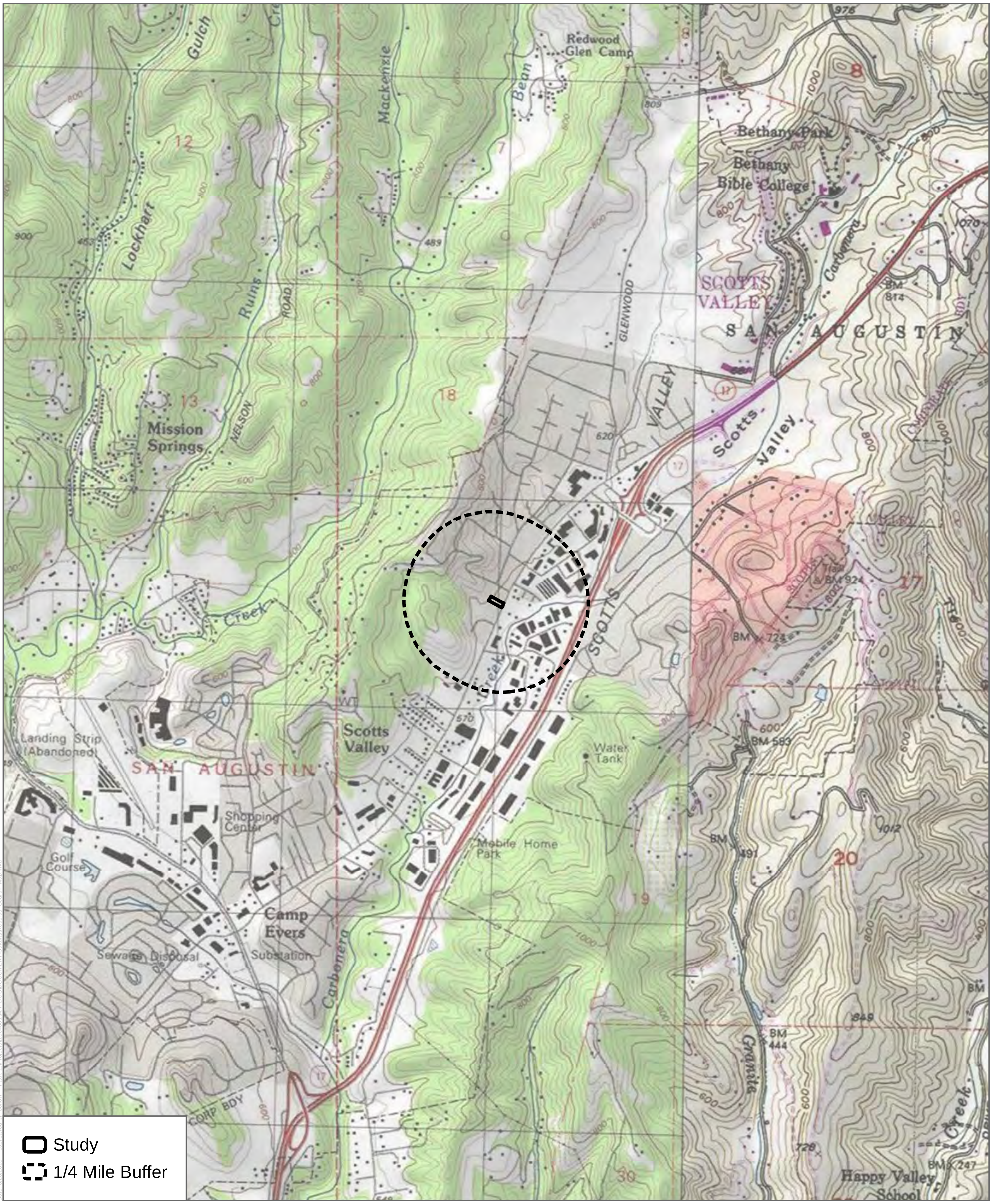
Please review the records search map attached to this letter and respond within 30 days if you have any questions or comments. You may respond by mail, e-mail, or telephone. If you have any questions or comments, you can reach me by telephone at (831) 291-8370, or by e-mail at amoniz@dudek.com. All comments and letters received will be

included in our confidential report. Thank you very much for your time regarding our request.

Sincerely,

Angie Moniz, M.A., RPA
Cultural Resources
DUDEK
725 Front Street Suite 400
Santa Cruz, California 95060

Attachment: Figure 1. Records Search Map



SOURCE: USGS 7.5-Minute Series Felton Quadrangle
Township 10S; Range 1W; Sections 18

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Records Search

Grace Way Well Project

Attachment 4

Project Photos

Photo 1: Project area overview looking east by southeast

Photo 2: Project Area overview looking east

Appendix D
Historical Resources Assessment

Built Environment Inventory and Evaluation Report

Scotts Valley Water District Grace Way Well Project

JULY 2023

Prepared for:

SCOTTS VALLEY WATER DISTRICT
2 Civic Center Drive
Scotts Valley, California 95066
Contact: Georgina King

Prepared by:

DUDEK

725 Front Street, Suite 400
Santa Cruz, California 95060
Contact: EJ (Erin) Jones, MA; Fallin Steffen, MPS; and Monte Kim, Ph.D.

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TABLES

EXHIBITS

FIGURES

APPENDICES

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
API	area of potential impacts
APN	Assessor's Parcel Number
Basin	Santa Margarita Groundwater Basin
bgs	below ground surface
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
City	City of Scotts Valley
County	Santa Cruz County
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
NETR	National Environmental Title Research LLC
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	California Public Resources Code
Project	SVWD Grace Way Well Project
SVWD	Scotts Valley Water District

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Executive Summary

Dudek was retained by the Scotts Valley Water District to complete a Built Environment Inventory and Evaluation Report for the proposed Grace Way Well Project (Project). The proposed Project is located within the City of Scotts Valley in the County of Santa Cruz, California (see Figure 1: Project Location). The proposed Project is located on one 0.33-acre parcel located at 5299 Scotts Valley Drive (Assessor's Parcel Number 022-031-13), which is presently developed with a one-story commercial building and an outbuilding (see Figure 2: Site Plan). Although the property's legal situs is 5299 Scotts Valley Drive, the property includes three individually addressed commercial suites addressed as 5297, 5299, and 5301 Scotts Valley Drive. For the remainder of this report, the property is identified as 5297 Scotts Valley Drive.

This study involved the review of a California Historical Resources Information System records search completed by Dudek in 2023 covEJg the proposed Project area; the delineation of an area of potential impacts (API) for built environment resources; a pedestrian survey of the API by a qualified cultural resource specialist; building development research, archival research, and the development of an appropriate historic context by a qualified architectural historian for the API; and the inventory and evaluation of one property, 5297 Scotts Valley Drive, for the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or the Scotts Valley Historic Landmark Designation Criteria.

As a result of extensive archival research, field surveying, and a property significance evaluation, the property located at 5297 Scotts Valley Drive is not eligible for the National Register of Historic Places, for the California Register of Historical Resources, or as a Scotts Valley Historic Landmark due to a lack of significant historical associations. Therefore, none of the buildings located in the complex are considered historical resources for the purposes of CEQA.

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1 Introduction

This chapter describes the proposed Scotts Valley Grace Way Well Project, including information about the location, setting, and proposed Project activities. This section also discusses the area of potential impacts (API), Project personnel, and the regulatory setting for the Project.

1.1 Project Location and Description

1.1.1 Project Location

The proposed Project is located within the City of Scotts Valley (City), which is situated in northern Santa Cruz County (County) on the upland slope of the Santa Cruz Mountains, approximately 5 miles inland from Monterey Bay. The City is approximately 3 miles north of the City of Santa Cruz, 20 miles southwest of the City of San Jose, and 50 miles southeast of the City of San Francisco. The Project site encompasses one 0.33-acre parcel sited at 5297 Scotts Valley Drive (Assessor's Parcel Number [APN] 022-031-13). The Project site is bounded by Grace Way to the northwest, Scotts Valley Drive to the southeast, and Service Commercial land uses to the northeast and southwest (see Figure 1: Project Location).

1.1.2 Project Description

This section provides a description of the proposed Project and includes information about the overview and purpose, background, location and setting, components, construction, operations, maintenance, and required Project approvals.

Overview and Purpose

The Scotts Valley Water District (SVWD) proposes to construct and operate one new groundwater extraction well on SVWD-owned property comprising a single parcel (APN 022-031-13) at 5297 Scotts Valley Drive, Scotts Valley, California. The well would be 1,000 feet deep into the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin (Basin). The primary purpose of the Project is to provide redundancy and allow for increased extraction capacity to meet SVWD customer water demand as older wells reach the end of their useful life and are taken out of service, and to strengthen the SVWD's ability to meet potential demand to deliver water to neighboring agencies under drought or emergency conditions in support of regional water supply planning efforts. Additionally, the Project would provide drought resiliency by enabling the SVWD to shift groundwater pumping away from areas where the greatest historical Lompico aquifer groundwater-level declines have occurred in south Scotts Valley.

Background

The SVWD provides water service to a population of 11,800 through approximately 4,330 connections covEJg most of the incorporated area of the City and some unincorporated areas north of the City, encompassing an area of approximately 6 square miles (Santa Cruz LAFCO 2021). For its potable water supply, the SVWD relies solely on groundwater from the Basin, which it extracts from six groundwater wells with a maximum extraction capacity of 1,400 gallons per minute that vary from 250 feet to 1,750 feet deep (Santa Cruz LAFCO 2021; SVWD 2023). Three water treatment plants with a combined capacity of nearly 2.06 million gallons per day treat the groundwater to meet federal and state potable water quality standards (SVWD 2023).

The SVWD shares the Basin with the neighboring San Lorenzo Valley Water District and Mount Hermon Association, as well as local businesses and residents using private wells. Rainfall is the main source of natural recharge for the Basin. Drought is an ever-present challenge in the Project area because the water purveyors are reliant solely on local precipitation, local surface water storage, and local groundwater storage. Since imported water supplies are not available in the region, multiyear dry periods can quickly escalate into emergencies for the region when supplies are insufficient to meet demands.

The Basin is a triangularly shaped basin generally bounded by the Zayante Fault on the northeast and the Ben Lomond Fault on the southwest. The Santa Cruz Purisima Formation, a granitic outcrop, and the Locatelli Formation generally delineate the southeastern boundary. The Santa Margarita, Lompico, and Butano Sandstones are the principal aquifers that supply groundwater in the Basin (DWR 2016; SMGWA 2021, 2023). Geographically, the Basin is generally bounded by the City and State Highway 17 on the east; the unincorporated communities of Felton, Mount Hermon, Ben Lomond, Brookdale, and Boulder Creek, and State Highway 9 on the west; and the unincorporated communities of Lompico and Zayante on the north.

The decline of groundwater levels in many parts of the Basin occurred during 1985–2004, representing a loss in groundwater storage in the Basin by an estimated 28,000 acre-feet. The SVWD began actively managing groundwater in the area in the early 1980s; it developed the Water Resources Management Plan in 1983 to monitor and manage water resources and adopted a groundwater management plan in 1994. The main goal of the groundwater management plan is to better manage the aquifers providing the community's drinking water through the management of quantity and quality of the groundwater supply. With conservation and other management efforts by local water agencies, the total pumping from the Basin has decreased by 45% since 1997. For the last 10 years, the demand and supply in the Basin have been in balance (SVWD 2023).

Along with the San Lorenzo Valley Water District and other agencies, the SVWD also participated in the Santa Margarita Groundwater Basin Advisory Committee, which was actively involved in the cooperative groundwater management of the Basin until its dissolution and substitution with the Santa Margarita Groundwater Agency in 2017. Pursuant to the requirements of California's Sustainable Groundwater Management Act, enacted in September 2014, the Santa Margarita Groundwater Agency's Groundwater Sustainability Plan was adopted in 2021 and includes four key Basin management goals: (1) provide a safe and reliable groundwater supply that meets the current and future needs of beneficial users; (2) support groundwater sustainability measures which enhance groundwater supply in the Basin, utilizing integrated water management principles; (3) provide for operational flexibility within the Basin through a drought reserve that considers future climate change; and (4) oversee planning and implementation of cost-effective projects and activities to achieve sustainability (SMGWA 2021).

Project Components

The Project would include the following new facilities: one groundwater well with a maximum extraction capacity of approximately 600 gallons per minute; a concrete block building for pump controls; utility connections for raw water, stormwater, sewer, and electrical service; and associated site improvements. Figure 2 provides the preliminary site plan for these facilities, and also shows the worst-case disturbance boundary, which would encompass the Project site and extend into the public roadway of Scotts Valley Drive for connections to existing utilities. The Project would include demolishing the existing buildings on the Project site but retaining the existing asphalt parking lot and driveway. New facilities would be located on the developed southeastern portion of the Project site, with the undeveloped northwestern portion potentially used for storage. The Project would not result in an increase in impervious surface area on the Project site over existing conditions. No tree removal would be required because there are no trees on site.

Well construction activities would meet the minimum requirements established in the California Well Standards, including California Department of Water Resources Bulletin 74-81 (Water Well Standards: State of California) and draft supplemental Bulletin 74-90 (California Well Standards). Siting and construction of the well would comply with the California Waterworks Standards (California Code of Regulations [CCR], Title 22, Division 4, Chapter 16).

The following sections provide additional details on each of the Project components.

Groundwater Well

The groundwater well would include the following elements:

- Construction of an approximately 34-inch-diameter conductor casing to a depth of approximately 55 feet below ground surface (bgs). The conductor casing serves to both stabilize the upper formations during borehole drilling and provide the required minimum 50-foot California Division of Drinking Water sanitary seal.
- Construction of an approximately 28-inch-diameter borehole to a depth of approximately 1,000 feet bgs. A 14-inch-outer-diameter well casing assembly would extend from approximately 3 feet above ground surface to a depth of approximately 1,000 feet bgs, with a well screen from approximately 500 to 980 feet bgs.
- Construction of one gravel feed tube. A graded gravel envelope would extend in the annular (ringed-shaped) space between the well casing and the borehole from approximately 450 feet to 1,000 feet bgs, and a sand-cement grout annular seal would extend from approximately 450 feet bgs to the ground surface.
- Installation of an estimated 125-horsepower submersible pump in the well, supported by a concrete pedestal surrounded by a concrete pad. The well pump would use an estimated 635 kilowatt-hours per day, based on 24-hour operation at 600 gallons per minute.

Pump Control Building

The pump control building would consist of a single-story, approximately 100-square-foot concrete block building that would house the pump motor control center and associated electrical equipment and instrumentation. The well pump and motor control would be operated on a variable frequency drive and would be controlled using local system pressure based on water demand in the SVWD system. The variable frequency drive would adjust pump speed to meet fluctuating water demands while maintaining a constant set pressure and would contain alarm indicators that would sound under conditions that may affect its operation or performance. Alarms would be less than 60 decibels, located inside of the building, and would not be audible from outside the building. The building would have ventilation cutouts to maintain the indoor temperature well below the maximum operating temperature of the variable frequency drives. If deemed necessary to attenuate noise produced by the equipment, ventilation cutouts would be covered with acoustic louvers. In addition to ventilation cutouts, penetrations to the building would include electrical conduits from the motor controls to the wellhead. Exterior lighting at the pump control building would consist of light-emitting diode (LED) downward-directional lighting fixtures mounted above the building entrance and would be controlled by a photocell, which would switch the light on at dusk and off at dawn.

Duty cycles for the well pump and motor controls would be based on water storage demand. When water is needed, a signal would turn on the well pump and motor controls, and once demand is satisfied, the pump and controls would automatically shut off. This cycle could range from several times a day, to full-time operation, to non-operation, based on seasonal demand.

Utility Connections

The Project would be served by the existing utilities near the Project site, with new service connections provided for the groundwater well facilities. The Project would not use natural gas. Electrical service would be provided by Pacific Gas & Electric Company. Electrical conduits would be installed from the pump control building to the wellhead, and from the pump control building to the existing electrical connection near the proposed fence. A transfer switch would be installed for use of a portable backup generator to provide a temporary power source for system operation, if needed in the event of a power outage.

The pump control building would be connected to the local sanitary sewer system, which conveys wastewater to the Scotts Valley Water Reclamation Facility for treatment prior to discharge and reuse. A storm drain lateral would be installed to connect to the existing storm drain along Scotts Valley Drive. The drain would be a minimum of 18 inches in diameter, per City specifications. An 8-inch-diameter raw water lateral would be constructed to connect the wellhead to an existing raw water main running down the center of Scotts Valley Drive. The raw water pipeline would transport the pumped groundwater to the El Pueblo Water Treatment Plant at 70 El Pueblo Road, approximately 0.25 miles southeast of the Project site.

Other Site Improvements

The Project would also include installation of a perimeter fence around the entirety of the Project site. An access gate would be located at the northeastern corner of the site. Other security measures for the Project site, such as motion-sensing cameras, would be installed as necessary.

Landscaping would be planted around the property frontage along Scotts Valley Drive and would include drought-tolerant vegetation consistent with the existing neighborhood. Existing vehicular access to the site from Scotts Valley Drive would be maintained as the permanent access for the facility, and no access improvements would be required. Parking would be accommodated within existing asphalt-concrete areas present at the site.

Construction

Construction activities are planned to commence in approximately spring 2024 and would continue over the course of approximately 10 months, concluding in early 2025. Construction would occur in two phases. Construction activities would begin with mobilization and site preparation, including demolition of the existing buildings, and well drilling and testing, lasting approximately 4 months. Once the well construction and groundwater quality sampling are completed, a second phase would begin, lasting approximately 3 months, to construct the aboveground facilities, including well equipping, pump controls, and utility connections. Standard construction equipment for well installation and testing would include a drilling rig, forklift, backhoe, dump trucks, concrete delivery with pumping equipment, generator, air compressor, crane, vertical turbine well pump and engine, and personal vehicles or other ancillary equipment. Standard construction equipment for the aboveground facilities would include a bulldozer, loader, excavator, forklift, dump trucks, roller/compactor, concrete delivery and pumping equipment, generator, crane, and asphalt paver.

Figure 2 shows the limits of construction disturbance, including disturbance from construction staging and laydown areas and utility connections, which encompasses approximately 0.5 acres. Construction equipment and materials staging, as well as construction worker parking, would be located on the Project site. Temporary lane closures on Scotts Valley Drive may be required during connections to existing utilities in the roadway. Project construction would include implementation of best management practices for erosion control and fugitive dust.

To the extent feasible, construction activities would be limited to daytime hours, between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays. However, well drilling would require a continuous 24-hour-per-day, 7-day-per-week schedule during certain aspects of the well installation process, for a total of 36 days over an approximately 3-month period, to avoid the risk of borehole collapse. In addition, the pilot borehole drilling, reaming, well installation, mechanical and chemical development, and constant-rate discharge testing would be completed on a 24-hour-per-day schedule for the integrity of the well or test. These 24-hour-per-day activities would be required during well drilling and construction (30 days), well development (5 days), and aquifer testing (1 day).

Before initiation of the well drilling phase, a 24-foot-tall temporary barrier would be installed around the well construction area to reduce noise, light, and dust from 24-hour-per-day well drilling activities. In addition, SVWD would post contact information at the Project site for any noise complaints and would address noise complaints on a case-by-case basis. Temporary construction lighting would be required for 24-hour well drilling activities; lighting would be directed downwards toward the Project site and away from adjacent residences. Once the well construction is completed, the temporary barrier would be removed. Construction of the control building, utility connections, and other site improvements would not require 24-hour-per-day construction activities and therefore would not require the temporary noise barrier.

The area immediately surrounding the proposed well site would be graded (as needed) to create a level pad for supporting a drill rig and other equipment. Well drilling would occur over approximately 3 months using the reverse rotary drilling method. Reverse rotary drilling involves sending fluid (i.e., water) down the annular space between the drill pipe and the borehole. The fluid reenters the drill pipe with cuttings entrained, removing cuttings back up the drill pipe and into a settling pit. As drilling continues, the excavated material is replaced with fluid. Drill fluid would be contained and removed as necessary during the course of the work and disposed of using a qualified vacuum truck at a facility licensed to handle non-toxic and non-hazardous liquid waste. There would be no discharge of well installation materials or fluids generated during construction of the well into any storm drain.

Development of the well would begin after the drilling is completed and the annular seal has set for an adequate amount of time. Groundwater generated during initial development would be diverted to the on-site sanitary sewer connection and discharged in accordance with a sewer discharge permit from the City. Various well pumping tests would be performed after final well development. These tests would include a step-rate discharge test where the discharge rate would be increased through a sequence of pumping intervals, and, after groundwater levels in the new well stabilize, a constant-rate discharge test where continuous pumping would occur for 24 hours at the design capacity of 600 gallons per minute or at a rate determined by the step-rate discharge test. A groundwater sample would be collected and delivered to a California-certified laboratory under appropriate chain-of-custody to verify the water quality produced. Discharge of final development and testing groundwater would be diverted to a stormwater drain inlet on the west side of Scotts Valley Drive and just east of the northeast corner of the property. Installation and maintenance of temporary discharge piping would be required.

The Project would include installation of pipelines to connect the new well to the City's water distribution, stormwater, and sanitary sewer systems. The Project also would require installation of new electrical conduits. Proposed pipelines and electrical conduits would be installed belowground using standard open-trench construction methods. Open-trench construction would involve the following steps: pavement cutting; trench excavation and shoring to stabilize the sides of the trench, if necessary; pipeline or conduit installation; trench backfilling and compacting; and surface restoration. The required pipeline and conduit trenches would be excavated up to a depth of approximately 4 feet and 2 feet, respectively. During installation, open trenches within roadways would be covered at the end of each workday with steel plates or similar materials to accommodate vehicle access during non-work hours. Soil excavated during well facility construction and pipeline installation may be used as backfill around the facilities or may be hauled off site for recycling or disposal.

The SVWD operates under the statewide National Pollutant Discharge Elimination System (NPDES) Permit for Drinking Water System Discharges to Waters of the United States (Order WQ 2014-0194-DWQ, General Order No. CAG140001) issued by the State Water Resources Control Board. The NPDES Permit allows the SVWD to discharge water into regional stormwater systems pursuant to Section 402 of the federal Clean Water Act (NPDES Permit) and Article 4, Chapter 4, Division 7 of the California Water Code (Waste Discharge Requirements). All water discharged to the storm drain would comply with the NPDES Permit requirements.

Operation and Maintenance

Operation and maintenance of the new well would be consistent with ongoing SVWD groundwater well operations. The proposed groundwater production well would be operated on an as-needed basis. The proposed well could be operated continuously or for shorter intervals, depending on the need for water. For the purposes of evaluation, the proposed well facility would pump approximately 250 to 280 acre-feet per year (81.5 to 91.2 million gallons per year).

Ongoing Project operation and maintenance would generate approximately five weekly trips to the Project site by SVWD staff; however, no new SVWD employees would be required. Routine operation and maintenance would entail regular activities and procedures to ensure the proper functioning, longevity, and safety of the well system, such as visual inspections of the wellhead, casing, pump, and associated equipment; water quality testing; and pump maintenance, including checking pump performance, lubricating parts, inspecting electrical connections, and replacing worn-out components as necessary. General site maintenance, including landscaping and vegetation control, would occur on a weekly or bi-monthly basis, depending on the season. Regular and routine maintenance activities would not include any ground-disturbing activities. Maintenance vehicles would park on the Project site.

The SVWD would routinely exercise the well, when not in regular use, to ensure that the facilities are maintained and remain operational. This would entail pumping water out of the well at a high rate to remove sediment, debris, and accumulated minerals and improve the flow of water into the well. Well exercising would be anticipated to occur either weekly or monthly. The well would be exercised for 1 hour per week or for a single, 4-hour period monthly. Operators may fine-tune the exercise schedule according to the characteristics of the well. Groundwater pumped during exercising would be discharged to the stormwater system.

SOURCE: ESRI 2023, County of Santa Cruz 2022

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0 250 500 Feet

FIGURE 1

Project Location

Grace Way Well Project

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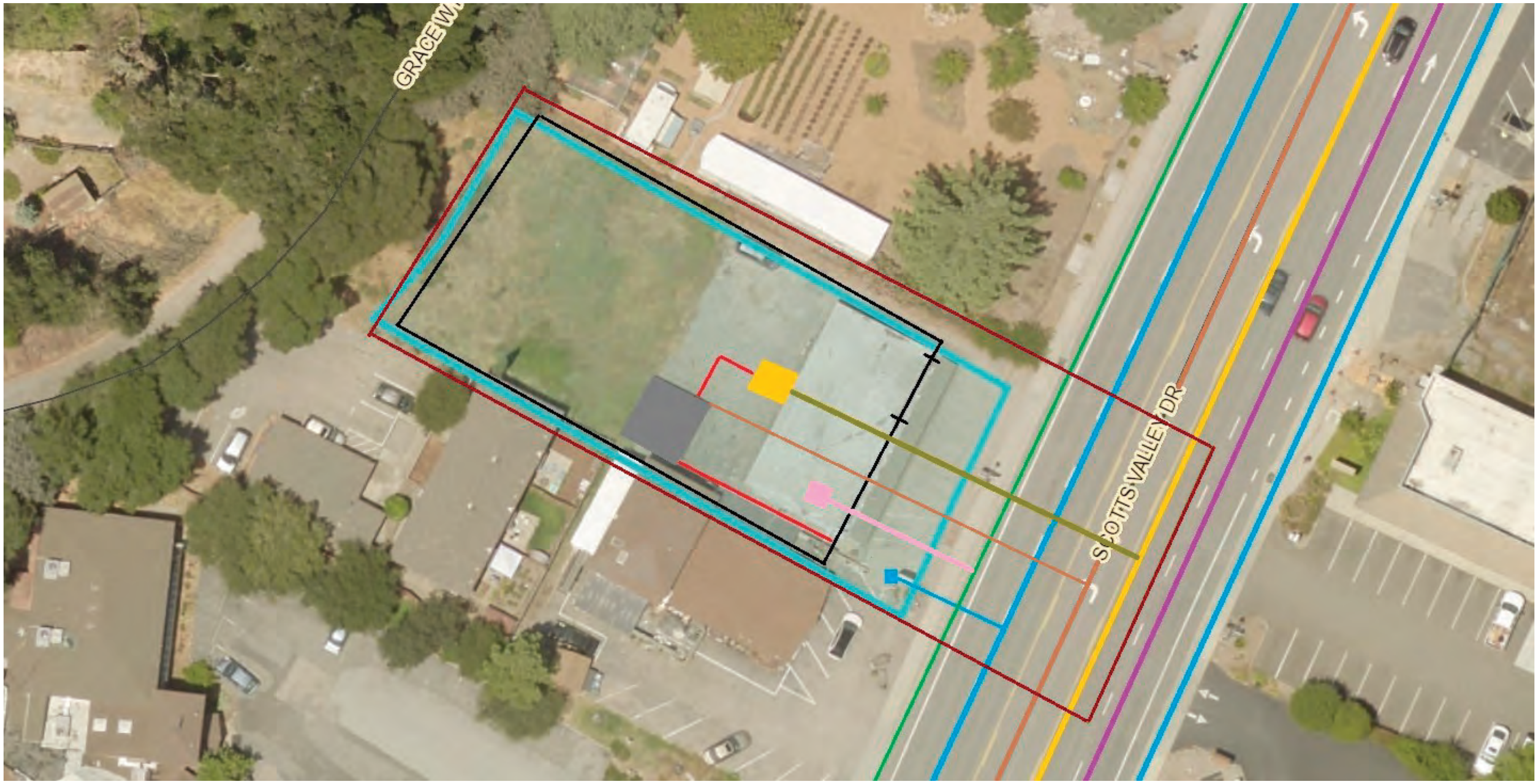

- Existing Treated Water Main
- Existing Raw Water Main
- Existing Recycled Water Main
- Existing Storm Drain
- Existing Water Meter
- Existing Sanitary Sewer
- Proposed Production Well
- Proposed Electrical Conduit
- Proposed Pump Control Building
- Proposed Sewer Connection
- Proposed Fence
- Proposed Gate
- Proposed Raw Water Lateral
- Proposed Strom Drain Lateral
- Disturbance Area
- Parcel Boundary

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FIGURE 2

Site Plan

Grace Way Well Project

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1.2 Area of Potential Impacts

The API is the study area delineated to assess potential impacts from the construction and operation of a project on historic built environment resources. The API encompasses the geographic area or areas within which a project may directly or indirectly cause a substantial adverse change in the significance of a known or unknown historical resource. A substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource is materially impaired (14 CCR 15064.5[b][1]). Under the California Environmental Quality Act (CEQA), material impairment of a historical resource is considered a significant impact (or effect), which can be direct, indirect, or cumulative.[1]

A direct or primary effect on a historical resource is one that is caused by a project and occurs at the same time and place (14 CCR 15358[a][1]). Examples of direct effects that are caused by, and immediately related to, a project include demolition, destruction, relocation, and alteration of a historical resource as a result of ground disturbance, high levels of ground-borne vibration, and other construction activities. In some cases, however, direct effects can be visual, auditory, or atmospheric. While these types of effects are not always physical in nature, they can cause physical changes that materially and adversely alter those characteristics of a historical resource or its immediate surrounding that contribute to its significance. Visual intrusions within the setting of a historical resource, for example, could result in material impairment if the setting is a characteristic that contributes to the significance of the resource. Similarly, operational noise that exceeds the ambient level of a sensitive noise receptor can cause material impairment to a historical resource such as a church, school, library, or cemetery that derives its significance, in part, from an inherently quiet auditory setting.[2] Finally, atmospheric intrusions caused by the introduction of high levels of fugitive dust emissions or chemical pollutants, for example, can result in adverse impacts that directly and physically affect biological landscape features such as trees and other plantings that have been identified as historical resources for the purposes of CEQA. Overall, while direct effects are commonly associated with physical effects, they may also include effects that are visual, auditory, or atmospheric in nature if the effect is caused by, and occurs at the same time and place, as a project and there are no other intervening causes between the activities or components of the project and the historical resource.

By contrast, an indirect or secondary effect is a reasonably foreseeable effect caused by a project that occurs later in time or is farther removed in distance. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems (14 CCR 15358[a][2]). Because these types of effects are not immediately related to the project, they are considered secondary effects.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or multiple separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively

1 As used in the California Environmental Quality Act (CEQA) Guidelines and 14 California Code of Regulations (CCR) 15358, the terms “effects” and “impacts” are synonymous and, therefore, are also used interchangeably in this report.

2 Construction noise that exceeds the ambient level of a sensitive noise receptor is not analyzed because it is considered a temporary impact that would not have an adverse effect on historical resources because it would not cause physical damage and would not permanently alter or diminish the integrity of such resources. Temporary construction noise would not result in a substantial adverse change in the significance of a historical resource and, therefore, would not cause a significant impact under CEQA.

significant projects taking place over a period of time (14 CCR 15355[a]-[b]). The API for cumulative impacts, if any exist, would be coincident with the API for direct effects, indirect effects, or both, because in order for a cumulative impact to exist, a historical resource must first be directly or indirectly affected by the project.

1.2.1 Area of Potential Impacts for Built Environment Resources

The delineation of the API considered the proposed Project activities in conjunction with historic era built resources that are 45 years of age or older (those built in or prior to 1978) that may sustain impacts due to the construction or operation of the Project.[3]

The horizontal limit of the API encompasses the full geographic extent of APN 022-031-13—which includes a historic era commercial building and outbuilding addressed as 5297 Scotts Valley Drive—and an adjacent 82-foot-by-43-foot portion of the Scotts Valley Drive roadway and right-of-way, as depicted in Figure 3. The commercial building and outbuilding are included in the API because they are over the age of 45 years and because the Project proposes to demolish them. Additional considerations used to justify the delineation of the API include the following:

- The area of direct physical effect is coincident with the southern, western, and northern legal parcel boundary of APN 022-031-13 and an adjacent 82-foot-by-43-foot portion of the Scotts Valley Drive roadway and right-of-way, wherein all Project activities, ground disturbance, grading, and site preparation associated with the Project would occur. Other construction activities that would occur within the boundary of the API include the demolition of two historic-era buildings (a commercial building and an outbuilding) that were constructed in 1962 that are currently addressed as 5297 Scotts Valley Drive. Both buildings were evaluated for the current project and found to be ineligible for the NRHP and CRHR, as well as local designation as a Scotts Valley historic landmark. Because of the geographically constrained nature of these activities, the area of direct physical impacts is confined to the API as presented in Figure 3.
- The API excludes the businesses to the north and south of APN 022-31-13, which are addressed as 114 Grace Way (APN 022-031-11), 5275 Scotts Valley Drive (APN 022-031-12), and 5311 Scotts Valley Drive (APN 022-031-14). 114 Grace Way (APN 022-031-11) was constructed in 1979, after the end of the historic period. 5311 Scotts Valley Drive (APN 022-031-14) and 5275 Scotts Valley Drive (APN 022-031-12), which were established in 1952 and 1960, are not listed in the OHP's Built Environment Resources Directory and do not appear in any local registers or surveys. Additionally, although the effects of the new construction would be visible from both properties, SVWD proposes to replace the two existing, one-story-tall buildings with a single, one-story building. The proposed construction would not alter the general appearance or the setting. Additionally, as the buildings located within the API are not physically connected to neighboring buildings and fencing separates the

3 In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource (14 CCR 4852[d][2]). While the 50-year threshold is generally used for listing resources in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR), the California Office of Historic Preservation (OHP) Instructions for Recording Historical Resources recommends recording "any physical evidence of human activities over 45 years ... for the purposes of inclusion in the OHP's filing system." It also allows for the "documentation of resources less than 45 years ... if those resources have been formally evaluated, regardless of the outcome of the evaluation." Further, the guidance notes that the 45-year threshold recognizes that there is commonly a 5-year lag between resource identification and the date that planning decisions are made, and thus it explicitly encourages the collection of data about resources that may become eligible for the NRHP or CRHR within that planning period. More restrictive criteria must be met before the resources included in OHP's filing system are listed, found eligible for listing, or otherwise determined to be important in connection with federal, state, and local legal statuses and registration programs (OHP 1995: 2).

properties, it is unlikely that the vibratory, auditory, or atmospheric effects associated with the Project would impact the surrounding historic-aged properties. Properties to the east and west of the API have been excluded because they are either physically separated from the construction by roadways, are too distant to be affected by the Project, or do not meet the minimum age threshold for consideration as historical resources under CEQA. Consequently, these properties are also excluded from the API (Parcel Quest 2023a, 2023b, and 2023c).

- Because there are no historical resources (as defined under Section 15064.5[a] of the CEQA Guidelines) that would be affected by the Project, and because there are no reasonably foreseeable Project activities that would occur later in time or that would be farther removed in distance that could indirectly affect historical resources, the API contains no geographic areas of indirect effect. Additionally, since the Project would not cause any direct or indirect effects to historical resources, there are no areas under consideration for cumulative effects. Therefore, the API is defined by, and coincident with, the area of direct physical effect as delineated in Figure 3.

Table 1 provides a list of the built environment resources associated with 5297 Scotts Valley Drive located within the API:

Table 1. Built Environment Resources Located within the Area of Potential Impacts

Map ID	Name/Use	Year Built	Architectural Style	Prior Evaluation Status
5297 Scotts Valley Drive				
A	Business Complex	1962	Ranch	Not Evaluated
B	Outbuilding	1962	Utilitarian	Not Evaluated

1.3 Project Personnel

This report, including research and property significance evaluations, was completed by Architectural Historians EJ Jones, MA; and Fallin Steffen, MPS. Dudek Archaeologist John Schlagheck, MA, RPA, conducted fieldwork and summarized the California Historical Resources Information System records search results. This report was reviewed for quality assurance/quality control by Dudek Senior Architectural Historian Monte Kim, PhD. Resumes for all key personnel are provided in Appendix A.

1.4 Regulatory Setting

1.4.1 Federal

National Register of Historic Places

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineEJg, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance, "How to Apply the National Register Criteria," as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity" (NPS 1997). NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration to be considered for listing.

SOURCE: Bing Imagery 2021

DUDEK

0 20 40 Feet

FIGURE 3

Built Environment Area of Potential Impacts

Grace Way Well Project

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1.4.2 State

California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineEJg, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code [PRC] Section 5020.1[j]). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c) (1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."

- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14 CCR 15064.5[b]). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1[q]), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; 14 CCR 15064.5[a]). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; 14 CCR 15064.5[a]).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5[b][1]; PRC Section 5020.1[q]). In turn, CEQA Guidelines section 15064.5(b)(2) states the significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; 14 CCR 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC Sections 21074[c], 21083.2[h]), further consideration of significant impacts is required. CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

1.4.3 Local

Scotts Valley Historic Landmark Designation Criteria

Chapter 17 of the Scotts Valley Code of Ordinances addresses the City's approach to cultural and historic preservation. This chapter identifies important local, cultural, archaeological, and historic resources. The historic landmark designation criteria are quoted below (17.44.130):

1. Identification or association with persons, eras or events that have contributed to local, regional, state or national history in a distinctive or important way;
2. Identification as or association with a distinctive or important work or vestige:
    a. Of an architectural style with historic value, design or method of construction, or
    b. Of a notable architect, engineer, builder, artist or craftsman, or
    c. The totality of which comprises a distinctive or important work or vestige whose component parts may lack the same attributes, or
    d. That has yielded or is substantially likely to yield information of value about history or culture, or that provides for existing and future generations an example of the physical surroundings in which past generations lived and worked;
3. Exemplification or reflection of special elements or characteristics of local, regional, state or national cultural, social, economic, political, aesthetic, engineEJg or architectural history.

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2 Research and Field Methods

2.1 California Historical Resources Information Systems Records Search

To identify cultural resources potentially affected by the Project, Dudek defined a records search study area that included the Project area and a 0.25-mile radius for resources and cultural studies. On June 7, 2023, Charles Mikulik conducted a California Historical Resources Information System records search at the Northwest Information Center at Sonoma State University (NWIC File No. 22-1905). Additional sources consulted included the NRHP, California Inventory of Historical Resources/CRHR, and the OHP Archaeological Determinations of Eligibility.

2.1.1 Previously Conducted Cultural Resources Studies

Northwest Information Center results show there are four previously conducted cultural studies with coverage that intersects the Project area. The four relevant reports are discussed in Table 2. There are 18 additional studies with coverage beyond the Project area but within the 0.25-mile records search radius (Table 3).

Table 2. Previously Conducted Cultural Resources Studies

NWIC Report No.	Title of Study	Date	Author(s)
S-3913	Cultural Resource Inventory of the Scotts Valley Wastewater Project Service Area	1977	William Roop, Leo Barker, and Charlene Detlefs
S-3913a	Historical Synopsis and Site Inventory of Scotts Valley	1977	Leo Barker and Charlene Detlefs
S-8313	Cultural Resource Evaluation of the Scotts Valley Redevelopment Area in the City of Scotts Valley, County of Santa Cruz	1980	Robert Cartier, Charlene Detlefs, and Glory Laffey
S-20176	Cultural Resource Evaluation of the Scotts Valley Drive Reconstruction Project in the City of Scotts Valley, California, in Fulfillment of CEQA Requirements	1998	Robert Cartier

Note: NWIC = Northwest Information Center.

2.1.2 Previously Recorded Cultural Resources

There are no previously recorded cultural resources that intersect the Project area. There is one recorded resource outside the Project area but within the 0.25-mile study area radius (Table 3). The one resource is Highway 17, within the County (P-44-000402).

Table 3. Previously Recorded Cultural Resources

NWIC Primary Number	Trinomial	Name	Resource Type	Age	Attributes
Within 0.25 Miles of the Project Area					
P-44-000402	CA-SCR-330H	Highway 17 (Santa Cruz County)	Structure	Historic	HP37

Note: NWIC = Northwest Information Center.

P-10-000402 (CA-SCR-330H)

This resource, Highway 17 (P-10-000402), was recorded with a Department of Parks and Recreation (DPR) 523 Form by L. Leach-Palm with Far Western Anthropological Research Group Inc., and S. Mikesell with JRP Historical Consulting Services in 1999. Leach-Palm and Mikesell recorded the alignment of the roadway and associated resources but did not evaluate the resource. The P-number listed on the form (P-10-000402) is not listed in the OHP Built Environment Resources Database as of 2023.

2.2 Archival Research

California State Library

On June 13, 2023, Dudek Architectural Historian EJ Jones visited the California State Library to review literature, historical newspapers, and material related to the development of the City, SVWD, and the development of the API. These materials were essential in preparing Section 3, the Historical Overview, and Section 4, Results of Identification and Evaluation.

Online Archive of California

On June 15, 2023, Dudek Architectural Historian EJ Jones reviewed the Online Archive of California for information pertaining to the development of the City. These documents were essential in preparing Section 3, the Historical Overview.

Santa Cruz Public Libraries Local History Archive

On June 15, 2023, Dudek Architectural Historian EJ Jones reviewed the Santa Cruz Public Libraries Local History Archive for historical articles, newspapers, postcards and historical ephemera, and maps documenting the histories of Scotts Valley, SVWD, and the subject property. These documents informed Chapter 3: Historic Context and Chapter 4: Results of Identification and Evaluation Efforts.

Built Environment Resources Database

On June 19, 2023, Dudek Architectural Historian EJ Jones reviewed the Built Environment Resources Database available online through the OHP for any information regarding previous listings of the subject buildings or other resources within the Project area. No information pertaining to the API was found.

Scotts Valley Building Department

On June 21, 2023, Dudek Architectural Historian EJ Jones contacted the Scotts Valley Building Department and inquired whether the office was in possession of permits or building records for 5297 Scotts Valley Drive and/or APN 022-031-13. There were no permits available for the property.

Santa Cruz County Assessors

On June 30, 2023, Dudek Architectural Historian EJ Jones accessed the County Assessors online historical permits database and reviewed the file for 5297 Scotts Valley Drive (APN 022-031-13). The search did not return permits or building history and development information.

Historical Newspaper Review

In June 2023, Dudek Architectural Historian EJ Jones reviewed historical newspapers from the City and the County to understand the development of the subject property. These documents were essential in establishing a history of the API and were used in the preparation of this report.

Historical Topographic Map Review

In June 2023, Dudek Architectural Historian EJ Jones reviewed historical topographic maps from the National Environmental Title Research LLC (NETR) for the years 1961, 1969, 1975, 1980, 1986, 1995, 2002, 2012, 2015, 2018, and 2021. Jones also reviewed historical topographic maps available through the United State Geological Survey (USGS) for the years 1968, 1980, 1991, and 1998. Although the maps show the surrounding area in development as early as 1955, the subject property is not illustrated on any of the NETR or USGS maps.

Historical Aerial Photograph Review

In June 2023, Dudek Architectural Historian EJ Jones reviewed aerial photographs of the Project area available through NETR for the years 1953, 1956, 1968, 1982, 1991, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020. The results of the historical topographic map review can be found in Table 4 (NETR 2023a).

Table 4. Historical Aerial Photograph Review

Year	5297 Scotts Valley Drive
1953	The API, an undeveloped field, is located on the west side of Scotts Valley Drive (contemporary name). The property, and the surrounding undeveloped area, is located south of the small community of Scotts Valley.
1956	The community of Scotts Valley has expanded southward, and a network of roads have been developed through the area. The API, which is still undeveloped, is now bound by Grace Way to the west, a small commercial property to the north, and a church to the south. Both sides of Scotts Valley Drive are under development with commercial lots.
1968	The API has been developed with the Business Complex (A), a rectangular building oriented roughly north-to-south, and the square Outbuilding (B). The parapeted main elevation of the Business Complex (east elevation) is visible. The west half of the property is dotted with mature trees. Commercial properties have been constructed to both the north and south of the API, creating small, rectangular parcels. The Santa Cruz Highway has been developed east of the API and suburban sprawl is stretching southward, towards the API, from Scotts Valley.

Table 4. Historical Aerial Photograph Review

Year	5297 Scotts Valley Drive
1982	The API appears to have gained its current configuration, as the Outbuilding and property's boarder fences are visible. The surrounding area has been heavily developed with suburban sprawl.
1991	There are no apparent changes to the API since the 1982 aerial photograph.
2005	There are no apparent changes to the API since the 1982 aerial photograph.
2009	Several mature trees have been removed from the west portion of the property, which is occupied by a grass field.
2010–2020	There are no apparent changes to the API since the 2009 aerial photograph.

2.3 Interested Party Correspondence

On July 6, 2023, Dudek Architectural Historians EJ Jones and Fallin Steffen sent an outreach letter and figure depicting the Project area to Debbie Muth, President of the Scotts Valley Historical Society. The letter provided a brief description of the proposed Project and requested information about historic and cultural components in or near the Project area. To date, no responses have been received. Copies of the interested party correspondence have been submitted in conjunction with this Project and all responses are located in Appendix B.

2.4 Field Survey

2.4.1 Methods

Built Environment Resources

During the surface reconnaissance for archaeological resources, John Schlagheck also completed a thorough photo documentation of the subject property. Dudek Architectural Historians EJ Jones, MA; and Fallin Steffen, MPS, conducted an in-depth review of the photo documentation in support of the property's historic significance evaluation. The photo documentation was adequate to show specific structural details and to contextualize the two extant built environment resources within the land surrounding the API. Jones and Steffen were able to view the character-defining features, spatial relationships, observed alterations, and historic landscape features via the photo documentation. All field notes, photographs, and records related to the current study are on file at Dudek's Santa Cruz office.

2.4.2 Results

Built Environment Resources

During the pedestrian survey for built environment resources, Dudek identified and recorded two buildings within the API, the Business Complex (A) and Outbuilding (B), that are over 45 years old and require an evaluation for historic significance. The significance evaluation (Section 4) provides a detailed physical description of each building and a historical significance evaluation under all applicable criteria. A full DPR 523 form set for the complex can be found in Appendix C.

3 Historical Overview

3.1 Historical Overview of Santa Cruz County

The following historic context addresses relevant themes concerning the history of the Project site. It begins with a discussion of the Spanish, Mexican, and early American periods, and a historical overview of the County before and after the development of the Scotts Valley area. The context concludes with a history of the property and subject property.

3.1.1 Spanish Period (1769–1821)

The earliest known European exploration of the Monterey Bay was a Spanish envoy mission led by Sebastián Vizcaíno in 1602. The purpose of the voyage was to survey the California coastline to locate feasible ports for shipping, and Vizcaíno had explicit instructions prohibiting the creation of settlements and interacting with local Native Americans. Finding the bay to be commodious, fertile, and extremely favorable for anchorage during eastward voyages from Manila to Acapulco, Vizcaíno named the Bay “Monterey” after the Conde de Monterey, the present Viceroy in Mexico (Chapman 1920: pp. 293–294; Hoover et al. 2002: pp. 225–226).

Despite being mapped as an advantageous berth for Spanish shipping efforts, the Monterey Bay area did not become the epicenter of Spanish settlement in Alta (upper) California until the second half of the eighteenth century. In an effort to prevent the establishment of English and Russian colonies in northern Alta California, Don Gaspar de Portolá, the Governor of Baja, embarked on a voyage in 1769 to establish military and religious control over the area. This overland expedition by Portolá marks the beginning of California’s Historic period, occurring just after King Carlos III of Spain installed the Franciscan Order to direct religious colonization in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, Padre-Presidente Franciscan Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823, including Mission Santa Cruz (Hoover et al. 2002: p. 226; Lehmann 2000: p. 3; Koch 1973: p. 3).

During their quest to locate the Monterey Bay based on the 160-year-old accounts of Sebastián Vizcaíno, the Portolá expedition first reached the present-day territory of Santa Cruz on October 17, 1769. After mistakenly circumventing the Monterey Bay and reaching the San Francisco Bay, the expedition backtracked to San Diego. The following year, on May 31, 1770, a second expedition was organized by Portolá resulting in a successful location of the Monterey Bay. However, it would be an additional 21 years before the Franciscan order would establish Mission Santa Cruz in the area near the San Lorenzo River (Koch 1973: pp. 2–3; Hoover et al. 2002: pp. 447–448).

Father Fermín Lasuén, Corporal Luis Peralta, and five soldiers established Mission Santa Cruz on August 28, 1791, as the twelfth mission in the California Mission system. The Spanish padres converted local Native Americans to Catholicism largely against their will, after which they were known as neophytes. Neophytes were forced to build the mission church and auxiliary structures from local timber, limestone, and adobe, and to cultivate wheat, barley, beans, corn, and lentils for their captors. In 1792, neophytes were directed to excavate a ditch for the purposes of carrying water from Tres Ojos de Agua (Three Eyes of Water), a group of three creeks near the modern entrance to the University of California, Santa Cruz campus, down to the Mission site. This ditch and the footpath beside it established the foundation for the future orientation of High Street in the City of Santa Cruz today and offered the Mission a distinct advantage in a geographic area that often experienced water shortages during the summer months (Hoover et al. 2002: p. 448; Lehmann 2000: pp. 3–4; SCWD 2023: p. 1).

From the start, Mission Santa Cruz was plagued by substantial issues. The forced conversion of the local native population by the Spanish padres resulted in repeated rebellions, violence, desertion, and pestilence at Mission Santa Cruz. In 1793, the neophyte population attacked the Mission guards and burned their station to the ground. In 1798, Padre Fernandez reported that 189 of the approximately 230 neophytes living on the Mission grounds had abandoned the Mission, causing the crops to fail and the livestock to be largely neglected. The Mission also experienced problems wrought by a nearby settlement known as Villa de Branciforte (Lehmann 2000: pp. 3–4).

In 1795, Spain established three self-governing Pueblos in Alta California that, unlike the Missions, would remain free from military and religious oversight. Villa de Branciforte was established in 1797 on the opposite bank of the San Lorenzo River from Mission Santa Cruz along the present-day alignment of both Branciforte Avenue and Branciforte Creek. The 40 settlers of Villa de Branciforte were not provided with the resources promised to build housing or cultivate the land and had to make do with crude dwellings of their own design. In 1803, there were 107 inhabitants, but because the population was made up of former soldiers, artisans, and criminals, they lacked the pertinent skill to farm and sustain themselves. Despite population growth in the initial years, the settlement was quickly deemed a failure by Spain (Lehmann 2000: pp. 4–5).

By 1817, the population of Villa de Branciforte had dwindled to 52 people. In 1818, fearing the attack of the French pirate Hippolyte de Bouchard, who had recently attacked the Monterey Presidio, the Mission padres fled from Mission Santa Cruz and placed the care of the complex with the remaining inhabitants of Villa de Branciforte. Instead of securing the Mission, the inhabitants of the Villa looted the valuable items from the complex while the padres were away, including furniture, doors, and flatware. Additionally, just under half of the 410 neophytes living at the Mission fled from the complex during the looting chaos and never returned (Lehmann 2000: pp. 4–5).

3.1.2 Mexican Period (1821–1848)

After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, decreed California ports open to foreign merchants, and eliminated the system of Spanish nobility in California. Additionally, Mexico secularized Spanish missions and placed the mission land into a trust. While the intention was to distribute the land to local Native Americans, repeated bouts of smallpox and syphilis swept through the Native communities. In just 2 years (1837 to 1839) the local Native population dropped from 284 persons to only 71 persons, leaving very few eligible Native Americans to receive the land. Records indicate that overall, only 25 Native Americans held property in the Santa Cruz area between 1834 and 1849 (Koch 1973: p. 10; Lehmann 2000: pp. 4–5).

In addition to returning land to local Native American community members, over 150,000 acres of land in present-day Santa Cruz County were granted to Mexican citizens in an attempt to discourage foreign occupation. In 1841, Alta California Governor Juan Bautista Alvarado granted Rancho San Agustin, a 4,437-acre property that encompassed present-day Scotts Valley, to Juan Jose Crisostomo Majors (born Joseph L. Majors) (Hoover 2002: p. 455).

3.1.3 American Period (Post-1848)

In 1848, shortly after the discovery of gold in northern California, the Mexican American War ended with the Treaty of Guadalupe Hidalgo, ushEJg California into its American period. As the Gold Rush picked up steam, a massive influx of gold seekers steadily flooded California's rural counties, including Santa Cruz County. Despite promises to honor Mexican-era land grants, the new state of California only recognized property ownership if the rancho owners could provide adequate documentation of their claim and its boundaries. Diseño maps, issued by the Mexican government to document rancho boundaries, were minimalistic and relied on natural, fluid, landmarks. Because of the United States' prerogative to open tracts of land to American settlement, the austere property certification issued by the Mexican government was often insufficient to prove ownership of the claim. Because proof of ownership was the financial and legal responsibility of the grant holder, lengthy court battles forced rancho owners to relinquish large portions, or all, of their properties (Lehmann 2000: p. 5; Koch 1973: p. 35; Starr 2007: p. 105).

By the early 1850s, Majors sold Rancho San Augustin to Hiram Daniel Scott. Scott, a native of Maine, relocated his large family, including his father, stepmother, and nine siblings, to the rancho. The name "Scotts Valley" was first used in reference to region in an 1852 Nevada Journal newspaper article (Nevada County, California). The family established a large residential farmstead (0.78 miles south of the API). As the gold fields dried up and new arrivals relocated to the County, insightful entrepreneurs saw the arrival of opportunity-seeking laborers as a means to harvest the abundant natural resources found throughout the area. The lumber, lime, cement, fishing, tanning, and leisure industries formed the economic foundation of the County (Laffey 1990; Nevada Journal 1852: p 1; Hoover 2002: p. 455; Lehmann 2000: p. 7).

In the central and southern areas of the County, early settlers took advantage of the fertile soil and temperate climate to establish large farms and dairies. Agricultural products, including grain and apples, were among the County's earliest and most successful industries. Interest in the beauty of the Monterey Bay drew visitors to the County as early as the 1860s, causing beach tourism to emerge as another major industry in the County. Tourism was also responsible for quickening the rate of development along the scenic coastal and foothill areas of the County. A rail line running from Gilroy to Santa Cruz by way of Watsonville was completed by 1876, followed shortly thereafter by a narrow-gauge line from Santa Cruz to Felton (3.4 miles west of the API). The completion of the railroads allowed for greater mobility to the area from the inland counties of California, by both residents and tourists alike. As the port altogether declined due to lack of use and the ease of transport by train, the natural beauty of the County presented savvy entrepreneurs with emerging opportunities (Lehmann 2000: pp.14, 25–26).

By 1893, Harper's Weekly acknowledged the County as a beach destination, promoting beachside institutions like the Neptune Baths built in 1884 by Captain C.F. Miller, and giving the coastal destinations like Camp Capitola the push needed to become national tourist destinations. The economic transition away from the early industries of the County towards tourism during this period helped to alleviate the strain placed on the forests in the north of the County, which had experienced widespread deforestation as a result of early logging and lime-production activities in that area. Few old-growth redwood specimens remained in the forests of the Santa Cruz Mountains, and as it became clear that these trees were capable of drawing crowds on their own, their conservation became a dual effort to both save the trees and simultaneously promote the County as a one-stop tourism destination. A tourist to the County could visit the ocean and the big trees in 1 day by taking the train (Lehmann 2000: p. 14).

As the County moved into the 1900s, agriculture and tourism continued to be the region's most prominent economic drivers. By the late 1950s, the population began to expand with aid from the establishment of Cabrillo College in 1959 and the University of California at Santa Cruz in the 1965. These higher education facilities brought both students and jobs as the schools became major sources of community employment throughout the County. During the 1980s, a number of technology companies settled in the area due to its close proximity to Silicon Valley. Today, tourism, agriculture, manufacturing, and technology are the key industries that provide the economic base for County's 273,213 residents (U.S. Census Bureau 2019).

3.2 Historical Overview of Scotts Valley

The valley land around the Scott's farmstead, where they raised over 200 horses and cultivated grain, attracted industrious settlers. A French-Canadian trapper named Francisco Lajeunesse opened the County's first tannery (southeast of the API) in the valley in 1856. In the late 1850s, miners established sand (silica) and granite mining claims in the area and, shortly after, lumbermen flocked to the thickly wooded hills. As industrialists traveled to the valley, Scott saw an opportunity to profit from the region's growing industrial sector. In 1858, Scott, Charles McKiernan, and F.A. Hihn incorporated the Santa Cruz Turnpike Company and constructed a stagecoach road (near the general alignment of Scotts Valley Drive) from Santa Cruz, through Scotts Valley, over the summit of the Santa Cruz Mountains, and into Los Gatos. At first, one stagecoach ran per week, and the road was primarily used to transport commercial goods and freight. But as the region's tourism industry grew, additional stagecoaches were added to the line and an increased number of travelers visited Scotts Valley. As the area's beauty, rich agricultural land, and plentiful natural resources attracted settlers between the mid- and late nineteenth century, Scott's Valley was developed with dairies, farms, lumber operations, and sand and gravel quarries (Koch 1973: p. 34; Laffey 1990).

While many flocked to the area to exploit its natural resources, the redwoods and Santa Cruz Mountains also attracted nature seekers. In the 1880s, early settler D.M. Lock rented his second residence on Bean Creek to campers from nearby cities. By 1887, several resorts and campgrounds had opened along the creek. Scotts Valley also became home to religious retreats, and, by the turn of the century, several religious groups had established properties with conference grounds in the area. The original State Highway 17 (now Scotts Valley Drive), which ran between Santa Cruz and Santa Clara Valley, was constructed through the area in the 1920s along the route of the old stage road. The increased automobile traffic nurtured commercial and residential development and the rise of roadside attractions. In the mid-1920s, Edward N. Evers established Camp Evers at the intersection of Highway 17 and Mt. Hermon Road (approximately 1.3 miles from the Subject Property). Camp Evers consisted of a rest stop with a small store, gas pumps, a dance hall, and tents for guests to camp overnight. The Beverly Gardens opened in the early 1930s and featured a small collection of exotic birds and animals, a restaurant, and cabins. Additional roadside attractions established in Scotts Valley during the mid- to late twentieth century included Axel Erlandson's "The Tree Circus," which featured trees bent into unusual shapes (knots, hearts, zigzags) and life-sized painted dinosaurs. The largest attraction was the year-round "Santa's Village," a Christmas-themed amusement park. From the late nineteenth to mid-twentieth century, Scotts Valley's small economy depended on a variety of diverse businesses including agriculture, the lumber and mining industries, and the roadside entertainment and restaurants that lined Highway 17. In the late 1950s, the Santa Cruz Highway (modern State Route 17) was constructed east of the community, bypassing the town's commercial thoroughfare (Brown 2011: pp. 91, 171; Scotts Valley Chamber of Commerce 2023; Laffey 1990).

Although the pattern of community growth was altered by the construction of the Santa Cruz Highway, development continued into the 1960s as communities in the Santa Cruz Mountains modernized their water systems. Since their initial development, mountain towns had drawn their water from nearby springs and creeks via flumes which, when the County's population doubled between 1900 and 1940, became inadequate. Frequent droughts between 1912 and 1939 convinced San Lorenzo Valley leaders to form a water district to better control water and to serve the needs of valley residents. Although Scotts Valley refused to join the San Lorenzo Valley Water District when it was established in 1941, they saw the need for their own district by the early 1960s. In 1961, SVWD was formed by a vote and merged multiple small water supply systems that pulled water from the Santa Margarita Groundwater Basin for domestic, commercial, and municipal purposes. In the mid-1960s, SVWD established a sewer system, tying it into a City of Santa Cruz treatment plant. The SVWD continued to expand and, as a result of drought, actively began to manage groundwater resources with the development of a water resources management plan (SLVWD 2023; Santa Cruz LAFCO 2021: p. 6; SVWD 2023; Brown 2011: pp. 185, 209–210, 241, 250)

Scotts Valley's commercial district, however, suffered from the construction of the Santa Cruz Highway, which impacted the town's financial wellbeing. In the early 1960s, Scotts Valley residents were further infuriated when the County's planning department approved plans for a mortuary and cemetery across from Santa's Village. In 1962, to prevent the cemetery's development, Scotts Valley community associations organized a campaign to undercut the County by incorporating as a city. In 1966, residents overwhelmingly approved of the plan. Despite their attempts to save Santa's Village and similar roadside attractions, the businesses could not survive after Santa Cruz Highway's construction. In addition to the amusement park, the Tree Circus (which had been renamed Lost World), Reed and Graham Concrete Plant, and Johnnies Produce Stand (a grocery) also closed. Although Scotts Valley's main thoroughfare was largely shuttered, real estate developers were attracted by the community's picturesque location between Santa Cruz and the Santa Clara Valley. In the late 1970s and 1980s, developers constructed residential subdivisions and transformed Scotts Valley into a bedroom community located between the City of Santa Cruz and Santa Clara County's urban centers. Technology companies, including Seagate Technology, Victor Technologies, and Netflix, found an early home in Scotts Valley. Between 1970 and 1990, Scotts Valley grew from having a population of just over 3,500 residents to over 8,600 people (Brown 20011: p. 171; Oppenheimer 2016; Biggest U.S. Cities 2023).

Between 2001 and 2004, many of the valley's newest employers—the technology firms—relocated to Silicon Valley and were replaced with businesses including Central Home Supply, Bay Photo Lab, Bell Helmet, and Zero Motorcycles. Scotts Valley has continued to grow steadily in the early twenty-first century and, in 2020, reached a population of over 12,200 residents. As of 2023, the valley's largest industries include healthcare services, manufacturing, and the technology sectors (Oppenheimer 2016; Biggest U.S. Cities 2023).

3.3 Development of 5297 Scotts Valley Drive

5297 Scotts Valley Drive (APN 022-031-13), which consists of the Business Complex (A) and an Outbuilding (B), was originally constructed in 1962. Archival research failed to indicate who designed, constructed, or originally owned the property, but historical newspaper sources suggest that a large number of occupants have conducted business at the property over time. The commercial Business Complex (A) opened with three individual suites addressed as 5297 Scotts Valley Drive, 5299 Scotts Valley Drive, and 5301 Scotts Valley Drive. The building's first occupants include Redmont Realty, which established an office at the property in 1962, and the Scotts Valley Property Owners Association, which opened their "Incorporation Campaign Office" at the property in 1963. Dr. Donald Earl Seapy (1931–2008) was the third tenant to move into a suite in the building when he established a medical clinic in the Business Complex (A). Seapy's practice was the first medical clinic to open in Scotts Valley (Santa Cruz Sentinel 1962: p. 19; Santa Cruz Sentinel 1963a: p.6; Santa Cruz Sentinel 1963b: p. 5; Santa Cruz Public Libraries 2023).

The Scotts Valley Incorporation Campaign Office likely closed after the City's successful incorporation in the mid-1960s. By 1968, Seapy had hired two additional practitioners and the needs of his clinic outgrew the single office suite. In 1969, Seapy did not renew the lease at 2957 Scotts Valley Drive and relocated his practice to 4663 Scotts

Valley Drive, where he established the (extant) Scotts Valley Medical Center. Photographer Norman Burns, owner of Scott's Valley Photography, assumed the suite's lease. Redmont Realty continued to operate from the property throughout the 1960s and 1970s (Santa Cruz Sentinel 1963b: p. 5; Santa Cruz Sentinel 1968: p. 4; Santa Cruz Public Libraries 2023; Santa Cruz Sentinel 1970: p. 2; Santa Cruz Sentinel 1976a: p. 31).

By 1976, David Ulric Stone and Iva Dell had purchased the property and obtained a building permit (alterations unknown). Shortly after the Stones' renovation, Burns's photography studio was replaced by "Scotts Valley 2 Way Shoppe," a communications equipment sales and services business. In 1978, Redmont Reality was rebranded as one of seven "Red Carpet Realty" offices but continued to conduct business from the property. The Stones gained a second building permit in 1978, also for unidentified alterations. By 1981, the Stones appear to have sold the property (APN 022-031-13) to the current owners, James Joseph and Rella S. Lee. In 1981, the Lees obtained a building permit (for unknown alterations). Within the same year, Attorney Judson T. Farley assumed a lease at the property and maintained occupancy for 8 years until, in 1989, he relinquished the suite to a new occupant, Coldwell Banker, Carl Connelly Realtors. The realty company maintained an office at the property until the early 2000s (Santa Cruz Sentinel 1976a: p. 47; 1976b: p. 11; 1978: p. 32; 1981a: p. 42; 1983: p. 25; 1996: p. 57; 1996: p. 57; 2004: p. 45).

Between 2000 and 2023, 5297 Scotts Valley Drive appears to have had a variety of tenants, including Transporter Auto Services, REES Construction, a contracting firm, and Bullseye Archery. The property continues to be owned by the Lee family; the sole tenant is the pet store Eloise and Annie (Google 2023; Parcel Quest 2023d).

3.3 Architectural Typology: One-Part Commercial Block

This building type originated in the mid-nineteenth century as an architectural staple across the rapidly expanding United States. One-part commercial block buildings were an affordable investment for developers building a speculative commercial district and easily satisfied the swelling demand for services. The one-block commercial block building type comprises a single-story structure with a flat roof that may be used as the cornerstone unit for a future larger, multistory structure. The utilitarian building type is typically located in urban and suburban settings, modestly ornamented, and has a primary elevation that faces the street (Longstreth 1987: p. 17; Kremer 2023).

Most wood-frame, one-part commercial blocks constructed during the nineteenth century were used as retail stores. One-part commercial blocks were also designed for banks, but these were generally of masonry construction and more embellished than their retail counterparts. Retail-oriented commercial block buildings evolved little in the twentieth century except for the inclusion of parapeted main elevations, which allow for affordable individualization, and large expansions of fixed glass windows on the main elevation. Grouped units became a ubiquitous feature along urban railroads, streetcar lines, and city roads (Longstreth 1987: p. 17; Kremer 2023).

By the 1920s, one-part commercial block buildings in suburban areas were designed with more ornamental flair, to be visually harmonious with their domestic surroundings. The popularization of automobiles and resulting traffic congestion also fostered the concept that low-density commercial development was preferable. The most pronounced transition occurred in the form of drive-in shopping centers, where most the building was set back from the street to provide spacious off-street parking. After World War II, emphasis was placed on the building's horizontal elements to accentuate a clean, uniform design. The one-story commercial block building style has evolved little since the mid-twentieth century (Longstreth 1987: p. 17; Kremer 2023).

Characteristics of one-story commercial block building properties include:

- Buildings one-story in height
- Emphasis on horizontal elements
- Large, fixed picture windows that face the street
- Sizable wall areas often used for advertising space and signage
- Mass-produced building materials

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4 Results of Identification and Evaluation Efforts

This section provides descriptions and evaluations of the property sited at 5297 Scotts Valley Drive (APN 022-031-13) under NRHP, CRHR, and Scotts Valley Historic Landmark Designation Criteria. No prehistoric resources have been identified (see Section 5.1, Management Recommendations). Two built environment resources have been identified on the property, the Business Complex (A) and Outbuilding (B). A physical description of each building and its development history is provided in the following. The complete DPR 523 form set for the complex is located in Appendix C.

4.1 5297 Scotts Valley Drive

4.1.1 Property Description

The subject property, addressed as 5297 Scotts Valley Drive (APN 022-031-13), is bound by Scotts Valley Drive to the east, commercial business complexes to the north and south, and Grace Way to the west. The 3.26-acre rectangular subject parcel was developed in c. 1962 with two buildings, the Business Complex (A) and Outbuilding (B). A paved, striped parking lot, which is accessed via a paved, street-front driveway at the northeast corner of the property, wraps around the west, north, and east elevations of the Business Complex (A). A short wood barrier and .16-acre grass field are located west of the building complex (Exhibits 1 and 2; ParcelQuest 2023a).

Exhibit 1. Main (east) elevation of the Business Complex (A), facing southeast (Image_1509).

Exhibit 2. View of the grass field, Outbuilding (B), and rear (west) elevation of the Business Complex (A) from the west boundary of the property. View looking east (Image_1498).

Business Complex (A)

The Business Complex (A) is a one-story 2,048-square-foot rectangular building constructed on a raised concrete foundation. The one-story commercial block-type building has a street-facing, full-length boxed parapet that obscures a flat roofline clad in rolled asphalt material. The main (east) elevation features three identical wooden half-lite doors that access different office suites. The window lites are divided into diamond patterns by wood muntin while the lower half of the door is ornamented with four decorative triangular panels. Four large, fixed, rectangular picture windows dominate the main (east) elevation and flank each entrance. A concrete walkway and low, brick veneer ornamental wall run the length of the main (east) elevation, which is sheltered by a pent roof supported with five uniform square posts. The Business Complex (A) features board-and-batten cladding (Exhibit 2).

The north and south elevations feature three symmetrical sliding windows in aluminum frames. The rear (west) elevation has two symmetrically placed doors including an original half-lite wood door (north corner) and a wood-composite panel door (south corner). The rear (west) elevation also features five asymmetrical sliding windows, with both aluminum and vinyl frames, and a projecting, boxy receptacle that is centrally located on the rear (west) elevation. The rear entrances are sheltered by a cantilevered roof (Exhibit 2).

Exhibit 3. The Business Complex's main (east) and north elevations with the wrap-around driveway. View facing southwest (Image_1508).

Outbuilding (B)

The wood-framed Outbuilding (B) has a square footprint constructed on a mud sill and raised concrete foundation. The Outbuilding's flat roof slopes slightly to the rear (west) so rainwater drains into an exterior gutter system. The roof, which is clad in rolled asphalt shingles, extends on the east, north, and west elevations to create pronounced cantilevered eaves with wood fascia boards. The building's single entrance, located on the main (east) elevation, consists of a wood-composite panel door. The Outbuilding is clad in vertical wood, T1-11 plywood boards (Exhibit 3).

Exhibit 4. The main (east) elevation and entrance to the Outbuilding, view facing east. (Image_1498).

Identified Alterations

The following alterations to the Business Complex (A) and Outbuilding (B) were observed during archival research and the pedestrian survey. Unless otherwise indicated, the dates of the alterations are unknown.

Business Complex (A)

- Various original aluminum-framed windows have been replaced with vinyl-framed windows.
- Metal security screen placed over window on the rear (west) elevation.
- Parking lot appears to have been repaved and striped.
- 1976: Unknown alterations were made (Santa Cruz Sentinel 1976a: p. 47).
- 1978: Unknown alterations were made (Santa Cruz Sentinel 1978: p. 32).
- 1981: Unknown alterations were made (Santa Cruz Sentinel 1981a: p. 42).

Outbuilding (B)

- The Outbuilding appears to have been reroofed.
- The Outbuilding's door appears to have been replaced.

4.1.2 National Register of Historic Places/California Register of Historical Resources Statement of Significance

The significance evaluation was prepared by Dudek architectural historians who meet the Secretary of the Interior's Professional Qualification Standards for architectural history. The complete DPR 523 form set for this property is located in Appendix C.

The property located at 5297 Scotts Valley Drive (APN 022-031-13) does not meet any criteria for listing in the NRHP or CRHR.

Under NRHP Criterion A and CRHR Criterion 1, the API lacks any direct and/or important association with events or themes that have made a significant contribution to the broad patterns of local, state, or national history. The area's commercial sector began to develop in earnest when Highway 17 was constructed through the community in c. 1925. Restaurants, shops, and roadside attractions developed along the highway and, as new businesses were established, the economy grew. Growth ended in c. 1955 when the new Santa Cruz Highway (State Route 17) was constructed east of the town's business district. The Santa Cruz Highway's development significantly impacted Scotts Valley's commercial development along its former main thoroughfare, Scotts Valley Drive. The API, constructed in 1962, is a representation of Scotts Valley's continued commercial activity in the mid-twentieth century. As such, the property legally cited as 5297 Scotts Valley Drive is recommended as not eligible under NRHP/CRHR Criterion A/1.

Under NRHP Criterion B and CRHR Criterion 2, the API lacks a significant association with the productive life of any person important in local, state, or national history. Archival research does not indicate that either of the API's identified owners, David and Iva Stone or James and Rella Lee, have made significant contributions to the area, state, or nation's history. While archival research also failed to yield information on many of the tenants who occupied the property over time, one of the API's first tenants, Dr. Donald E. Seapy, appears to have been an important person within the context of Scotts Valley history. In 1963, Seapy established the community's first medical office on the subject property and operated the business from the site until 1969. Despite being a significant person in Scotts Valley's history, Seapy only conducted business from the API for a short time before he relocated to 4663 Scotts Valley Drive and established the Scotts Valley Medical Center, which is still in operation today. As such, the property is not known to be directly associated with the place where a person has conducted their important work and is not eligible under NRHP/CRHR Criterion B/2.

Under NRHP Criterion C and CRHR Criterion 3, the API lacks distinctive characteristics of a type, period, or method of construction, is unlikely to represent the work of a master, and does not possess high artistic value. Research did not reveal the architect or builder of this property, but due to the utilitarian style of the building, it is unlikely that it would be associated with the work of a master architect. The utilitarian office-type building, which is composed of ubiquitous and prefabricated materials, is not emblematic of a type, period, or method of construction nor does it possess high artistic value. Consequently, the subject property is recommended not eligible under NRHP Criterion C or CRHR Criterion 3.

Under NRHP Criterion D and CRHR Criterion 4, there is no evidence to suggest that the property located at 5927 Scotts Valley Drive has the potential to yield information important to prehistory or history. Therefore, the property does not appear eligible under NRHP/CRHR Criterion D/4.

4.1.3 City of Scotts Valley Historical Resources Statement of Significance

Under local designation rCiterion 1, the property lacks a significant association with persons, eras, or events that have contributed to Scotts Valley, California, or the nation's history in a distinctive way. The API was developed after Scotts Valley's initial period of economic growth, and archival research has failed to associate the property with any other theme significant to local, regional, or national history. Archival research indicates that a person of local historical importance, Dr. Donald E. Seapy, conducted his medical practice from the property for a number of years. In 1963, Seapy moved to Scotts Valley and opened the community's first medical center. Seapy grew his practice at the API and hired two new practitioners. By 1969, the needs of the clinic had outgrown the API and, to continue to meet the needs of the community, Seapy chose to relocate his practice. Seapy relocated to 4663 Scotts Valley Road and established the Scotts Valley Medical Center, which continues to serve the community today.

Under local designation Criterion 2, the API lacks an identifiable association with a distinctive work or important vestige. The buildings located at 5297 Scotts Valley Drive, the Business Complex (A) and Outbuilding (B), are of the ubiquitous one-story commercial block building type and is composed of utilitarian building materials. The API's architectural style lacks historical value, design, or a method of construction that suggests it may have been constructed by a notable architect, engineer, builder, artist, or craftsman. Archival research also failed to indicate that a master craftsman was involved with the development of the property. The API, which is not a distinctive work, has not yielded information of value about history or culture and is unlikely to provide future generations an example of the physical surroundings in which past generations have lived and worked.

Under local designation Criterion 3, the property located at 2957 Scotts Valley Drive does not exemplify or reflect special elements or characteristics of the community of Scotts Valley, the State of California, or the nation's cultural, social, economic, political, aesthetic, engineEJg, or architectural history. Archival evidence does not indicate that the subject property exemplifies characteristics of Scotts Valley's cultural or social heritage. The Business Complex (A) has been occupied by private enterprises since its development in c. 1962 and has never been used as a community gathEJg place or played a role in the City's social and cultural development.

Economically, the area's commercial sector developed in 1925 when Highway 17 was constructed through the community. Roadside and tourist attractions developed alongside the transportation network and thrived until the mid-1950s, when the Santa Cruz Highway was constructed east of the town's business district. The road's establishment significantly impacted the town's economy and altered the characteristic tourist industry. 2957 Scotts Valley Drive, established in c. 1962, is not associated with the town's economic development and is representative of Scotts Valley's continued commercial activity in the mid-twentieth century. In 1963, the Scotts Valley Incorporation Campaign Office was established at the property. Although the organization played a role in the incorporation of Scotts Valley as a city, archival research does not indicate that the subject property played a role in the City's incorporation. It does not appear that the City's boundaries were drawn at the incorporation office and the vote occurred elsewhere. As such, 2957 Scotts Valley Drive does not reflect the political development of Scotts Valley.

The buildings located at 2957 Scotts Valley Drive lack distinctive characteristics of a type, period, or method of construction and do not possess high artistic value. The utilitarian office-type building, which is composed of ubiquitous and prefabricated materials, is not emblematic of Scotts Valley's aesthetic, engineering, or architectural history. Consequently, the subject property is recommended as not eligible under local criterion 3.

4.1.4 Integrity Discussion

Because the buildings at 2957 Scotts Valley Drive lack sufficient significance to meet any of the criteria for listing in the NRHP, CRHR, and the Scotts Valley local register, an integrity analysis was considered immaterial. The evaluations found that neither of the buildings possess historical significance, and therefore no analysis of their physical integrity is required.

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5 Conclusions

5.1 Summary of Findings and Management Recommendations

As a result of the archival research, field survey, and property significance evaluations completed for this Project, Dudek found that the property at 5297 Scotts Valley Drive is not eligible for listing in the NRHP, CRHR, or as a Scotts Valley Historic Landmark due to a lack of significance. As such, neither the Business Complex (A) nor Outbuilding (B) are considered historical resources under CEQA and they each have been assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or Scotts Valley Historic Landmark Designation Criteria through survey evaluation). No additional management recommendations have been identified for the built environment resources.

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Appendix A
Qualifications

Erin Jones, MA

ARCHITECTURAL HISTORIAN

EJ (Erin) Jones (*E-Jay (AIR-in) JO-nes; They/Them*) is a cultural resource manager with 2 years' experience specializing in Washington, Oregon, and California. Jones is an expert researcher and is adept at context writing and the evaluation of historic properties. She has experience authoring California Environmental Quality Act (CEQA) compliance documents, National Historic Preservation Act (NHPA) Section 106 compliance reports, Historic Resource Evaluation Reports (HRERs), Cultural Resources Inventory and Evaluation Reports (CRIERs), Historical Resource Inventories (HRI), Cultural Resource Technical Reports (CRTRs), Historical Resources Inventory and Evaluation Reports (HRIERs), and Historic American Building Survey (HABS)–level documentation. Jones meets the Secretary of the Interior's Professional Qualification Standards for architectural history.

Education

California State University, Sacramento
MA, Public History with Distinguished Honors, Spring 2021

University of Oregon
BA, History and Political Science, Fall 2017

Dudek Project Experience

Education

Chapman University Specific Plan Update Project, Chapman University, Orange, California. Dudek was retained by Chapman University to complete an update to their Specific Plan. As part of this project, Dudek prepared a BEIER, performed an intensive-level survey for specific campus buildings over 45 years of age, conducted a records searches, and completed extensive archival research. Dudek also recorded and evaluated multiple campus buildings for historical significance in consideration of potential impacts to historical resources under CEQA. Surveyed five buildings on campus over 45 years of age, contributed to the technical report, and prepared DPR 523 series forms for multiple campus buildings. (2022)

CRIER for the Yuba College Buildings 1300 & 1500 Demolition Project, Yuba Community College District, Yuba County, California. Served as the architectural historian, main researcher, and coauthor of the CRIER for the Yuba College Building 1300 & 1500 Demolition Project. The Yuba Community College District retained Dudek to complete the report in support of the proposed demolition of the existing 1300 Collins Hall and 1500 Osuna Hall residential buildings on the Yuba College campus. The report included a California Historical Resources Information System (CHRIS) records search covering the Yuba College campus plus a 0.25-mile buffer; archival and building development research for the building located within the project site; evaluation of Buildings 1300 and 1500 for the NRHP, CRHR, CHL, and local eligibility criteria and integrity requirements; and an assessment of impacts to historical resources in compliance with CEQA and California Public Resources Code (CPRC) Sections 5024 and 5024.5 for state-owned resources. (2021)

Master Plan, CSUMB, Seaside, California. Dudek was retained by California State University, Monterey Bay (CSUMB), to complete a BEIER in support of the proposed Master Plan. This study involved archival research, survey, recordation, and evaluation of 11 campus buildings more than 45 years old that are proposed for demolition/substantial alteration as part of the proposed "Near-Term Projects." Coauthored portions of the report, including the historic context statements and construction history, and associated DPR 523 forms set. (2021)

CRTR for the California State University, Fresno, Affordable Student Housing Project, Fresno, California. Served as an architectural historian and coauthor of the CRTR for the California State University, Fresno, Affordable Student Housing Project. The proposed Fresno Affordable Student Housing Project was limited to a 0.8-acre redevelopment area in the southcentral portion of the Fresno State campus. This study involved the review of CHRIS records; the development of archaeological and built environment study areas; a pedestrian survey of the project area by a qualified archeologist and a qualified architectural historian; building development research, archival research, and the development of an appropriate historic context for the project area; recordation and evaluation of the University Courtyard residential complex for NRHP, CRHR, CHL, and City of Fresno historic resource eligibility criteria and integrity requirements; and an assessment of impacts to historical resources in compliance with CEQA and CPRC Sections 5024, 5024.5, and 15064.5(a)(2)-(3). (2021)

Phase I HRTR, Building 7045, Devereux Gymnasium, West Campus, UCSB, Santa Barbara, California. Acted as an architectural historian, researcher, and coauthor of the HRTR for Phase I: Building 7045, Devereux Gymnasium on the west campus of the University of California, Santa Barbara (UCSB). Dudek was retained by UCSB and federally funded by the National Endowment for the Humanities, making it subject to federal review under Section 106 of the 1966 NHPA (16 USC 470f) and the regulations found at 36 CFR Part 800, and pursuant to the National Programmatic Agreement (NPA) among the National Endowment for the Arts (NEA), National Conference of State Historic Preservation Officers, and the Advisory Council on Historic Preservation (ACHP). The project is also subject to review under CEQA and CPRC Sections 5024 and 5024.5 for state-owned resources. The HRTR included a CHRIS records search of the proposed project area and a 1-mile radius; the identification of previously recorded historic properties in the vicinity of the project area; an intensive-level survey; archival and building development research; an evaluation of the building for the NRHP, CRHR, CHL, and Santa Barbara County local eligibility criteria and integrity requirements; and an assessment of effects to historic properties. (2021)

Development

Cultural Resources Assessment HRC Project Area Expansion, County of San Benito, California. Dudek was retained to complete an extended Phase I Cultural Resources Assessment for a 98-acre expansion to the Hollister Research Campus (HRC) Project area. The purpose of this report is to determine if the proposed project, located in the County of San Benito, California, would impact historical resources pursuant to CEQA. Dudek completed the initial phase I cultural resources assessment for the original 234-acre HRC Project in November 2021 and found no significant resources within the original HRC Project area. In this report, Dudek expands the assessment to the contiguous 98-acre parcel, located south of the original HRC Project area. This report is therefore supplemental to the November 2021 report and addresses only the 98 acres added to the original HRC Project area. Completed a historical significance evaluation of one residential/agricultural property located within the project area. (2022)

Built Environment Assessment of Buildings to be Demolished – WLC Project, City of Moreno Valley, Riverside County, California. Served as the architectural historian for the World Logistics Center (WLC) Specific Plan Project that was approved by the City of Moreno Valley in 2020. The overall project site is located on 2,610 acres in the Rancho Belago area at the eastern end of Moreno Valley, south of State Route (SR) 60, east of Redlands Boulevard, west of Gilman Springs Road, and north of the San Jacinto Wildlife Area. As part of the approved project, a number of existing rural residential buildings (i.e., residences, barns, and utilitarian or ancillary agricultural structures) are proposed to be demolished prior to mass grading. Two parcels contain buildings that were formally evaluated under NRHP, CRHR, and other criteria to determine if the proposed demolition will impact resources considered significant. Evaluated the buildings to determine if they were historical resources and if the demolition of these buildings could result in a significant impact under applicable federal, state, and local regulations and policies. None of the buildings on these properties were found to be significant under any applicable criteria. (2022)

Fallin E. Steffen, MPS

ARCHITECTURAL HISTORIAN

Fallin Steffen (*FAL-in STEF-in; she/her*) is an Architectural Historian with 6 years' experience in historic preservation, architectural conservation, and cultural resource management in the Monterey Bay Area and Northern California. Ms. Steffen's professional experience encompasses a variety of projects for local agencies, private developers, and homeowners in both highly urbanized and rural areas, including reconnaissance- and intensive-level surveys, preparation of resource-appropriate and city-wide historic contexts, and historical significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), and local designation criteria. Additionally, Ms. Steffen was appointed as a Commissioner to the Santa Cruz City Historic Preservation Commission assisting Santa Cruz City Staff with design review and conformance with the Secretary of the Interior Standards for proposed residential, commercial, and municipal projects involving historic properties. Ms. Steffen meets the Secretary of the Interior's Professional Qualification Standards for Architectural History. She is experienced with interdisciplinary projects spanning private and public development, transportation, and water infrastructure, and maintains experience forming educational sessions about the identification of and best practices for the preservation of historic resources.

Education

Tulane University,
New Orleans, LA
Masters of Preservation Studies, 2015

University of California, Santa Cruz, CA
B.A. History of Art & Visual Culture, 2010

Dudek Project Experience

Education

Washington Middle School Multi-purpose Room project, Cloverdale, California. Served as architectural historian and co-author of the Historical Resources Evaluation Report for the Washington Middle School Multi-purpose Room Project to renovate and modernize the existing Washington Middle School Multi-purpose room on the Washington Middle School campus in Cloverdale, California. The Cloverdale Unified School District retained Dudek to complete the report in support of the proposed project. The report included the review of an existing CHRIS records search covering the campus; archival and building development research for the campus buildings located within the project site; evaluation of the Washington Middle School Campus for NRHP, CRHR, and local eligibility criteria and integrity requirements; and an assessment of impacts to historical resources in compliance with CEQA. Ms. Steffen's role in the preparation of the study included the required exterior survey of the Washington Middle School campus, extensive archival research, the co-authoring of the historic context covering the development of the campus overtime, and the preparation of a significance evaluation and accompanying DPR forms. (April 2021)

Yuba College Building 800 Modernization Project, Yuba County, California. Served as architectural historian and co-author of the Historical Resources Evaluation Report for the Yuba College Building 800 Modernization Project to renovate and modernize the existing 800 Life and Physical Science Building on the Yuba College campus. The Yuba Community College District retained Dudek to complete the report in support of the proposed project. The report included a CHRIS records search covering the Yuba College campus plus a 0.25-mile buffer; archival and building development research for the building located within the project site; evaluation of Building 800 for the NRHP, CRHR, California Historical Landmark, and local eligibility criteria and integrity requirements; and an assessment of impacts to historical resources in compliance with CEQA and Public Resources Code (PRC) Sections 5024 and 5024.5 for state-owned resources. Ms. Steffen's role in the preparation of the study included the required exterior survey of Building 800, extensive archival research, the co-authoring of the historic context covering the development of the Yuba College campuses overtime, and the preparation of a significance evaluation and accompanying DPR forms. (February 2021)

University of California, Berkeley Clark Kerr Campus Beach Volleyball Complex and Partial Building 21 Demolition Project, Berkeley, California. The two-part, University of California, Berkeley Clark Kerr Campus Beach Volleyball Complex and Partial Building 21 Demolition Project incorporates both the conversion of the CKC recreational softball field into a recreational and Intercollegiate Athletic (IA) beach volleyball facility and the partial demolition of CKC Building 21 to meet obligations under the CKC neighborhood covenants limiting new campus development. The proposed project is located within the historic property boundary of the National Register of Historic Places (NRHP) District No. 82000962 State Asylum for the Deaf, Dumb, and Blind (also known as California Schools for the Deaf and Blind), listed in 1982. The cultural resources study included a records search of the proposed project site plus a 0.25-mile radius; a pedestrian survey of the project site; a review of relevant documentation pertaining to the district; and an assessment of impacts to historical resources in compliance with CEQA and PRC Sections 5024 and 5024.5 for state-owned resources. Ms. Steffen served as architectural historian and co-author of the cultural resources study. Her role in the preparation of the study included the required exterior survey of the district, review of relevant documentation, and an assessment of impacts to historical resources. (April 2020–Present)

California State University (CSU), Fresno, Central Utility Plant Modernization Project, Fresno, California. The CSU Fresno Central Utility Plant Modernization Project is intended to renovate and modernize the existing Central Utility Plant. The cultural resources study included the review of a CHRIS records search completed by Dudek in 2018 covering the project area; the development of a Built Environment Study Area; archival and building development research for buildings located within the project site; evaluation of buildings for NRHP, CRHR, California Historical Landmark, and local eligibility criteria and integrity requirements; and an assessment of impacts to historical resources in compliance with CEQA and PRC Sections 5024 and 5024.5 for state-owned resources. Ms. Steffen served as architectural historian and co-author of the cultural resources study and conducted the required exterior survey of campus buildings over 45 years of age scheduled for substantial alteration as part of the proposed project. (November 2020–Present)

CSU Chico, Master Plan EIR, Chico, California. The CSU Chico Master Plan is intended to update the most recent master planning document for CSU Chico from 2005 to promote student life experience. Additionally, the new master plan will provide for the CSU Chico College of Agriculture to provide leadership, basic and applied research opportunities, and a positive work environment for employees and students. The cultural resources study included a records search of the proposed project site plus a 0.5-mile radius; a pedestrian survey of the project site; archival and building development research for buildings located within the project site; evaluation of buildings for the NRHP, CRHR, California Historical Landmark, and local eligibility criteria and integrity requirements; and an assessment of impacts to historical resources in compliance with CEQA and PRC Sections 5024 and 5024.5 for state-owned resources. Ms. Steffen served as architectural historian and co-author of the cultural resources study. Her role in the preparation of the study included the required exterior survey of campus and university farm buildings and in some cases, interior survey fieldwork involving all buildings and structures on campus over 45 years of age scheduled for demolition and/or substantial alteration as part of Phase 1 and 2 of the proposed Master Plan. This project also entailed extensive archival research and the preparation of historic context covering the development of the CSU system and the CSU Chico campus, and the preparation of significance evaluations and accompanying DPR forms for each resource. (February 2020)

Monte Kim, Ph.D.

SENIOR ARCHITECTURAL HISTORIAN

Monte Kim (*he/him*) is a senior architectural historian and historic built environment resource specialist with over 20 years of professional experience in all phases of regulatory compliance under Section 106 and Section 110 of the National Historic Preservation Act (NHPA), Section 4(f) of the Department of Transportation Act, National Environmental Policy Act (NEPA), and California Environmental Quality Act (CEQA). He has experience in the inventory and evaluation of resources within the historic built environment, as well as the assessment of effects on historic properties and historical resources and has authored or co-authored nominations for the National Register of Historic Places (NRHP) and has overseen the documentation of historic properties in accordance with the standards required for the Historic American Building Survey (HABS), the Historic American Engineering Record (HAER), and the Historic American Landscape Survey (HALS). He has also developed and implemented resource-specific mitigation measures, treatment plans, protection plans, and interpretive plans for large, transportation-related projects, including the California High-Speed Rail Project. Additionally, he has experience consulting with State Historic Preservation Officers and developing programmatic agreements and memorandum of agreement documents for government agencies. Mr. Kim meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history.

Education

University of California, Santa Barbara Ph.D., History, 2005

California State University, Sacramento MA, Public History, 1999

University of California, Santa Cruz BA, History, 1996

Professional Affiliations

California Preservation Foundation

Vernacular Architecture Forum

Transportation Research Board

Dudek Project Experience

The Riverview Development Project, Santa Clarita, Los Angeles County, California. Dudek architectural historians conducted the fieldwork and authored a Built Environment Inventory and Evaluation Report (BEIER) for the Riverview Development Project. The project proposed to construct a mixed-use development consisting of 318 single-family units and 69,692 square feet of commercial space on a 35.4-acre site that was used for a rodeo and auto race track. The BEIER found that none of the extant buildings and structures within the study area were eligible for the NRHP, the California Register of Historical Resources (CRHR), or local designation in the city of Santa Clarita. The property was also evaluated in accordance with 14 Cal. Code of Regulations (CCR) § 15064.5(a)(2-3) using the criteria outlined in Public Resource Code (PRC) § 5024.1 and determined that none of the resources in the study area were historical resources for the purposes of CEQA. Mr. Kim provided quality assurance/quality control for this project. (2023).

Vista Old Taylor Project, TTLC Management Inc., Vista, California. Dudek was retained by TTLC Management Inc. to prepare a Built Environment Inventory and Evaluation Report for a proposed residential development project. This work involved the recordation and evaluation of two single-family residential properties constructed in the 1940s and 1950s. Mr. Kim provided quality assurance/quality control for this report (2023).

Carson Gateway Specific Plan Built Environment Inventory and Evaluation Report, Carson, California. Dudek was retained to prepare a Built Environment Inventory and Evaluation Report for five buildings constructed int eh 1960s as automobile service stations and sales lots in Carson, California for a proposed redevelopment. Mr. Kim provided quality assurance/quality control for this report (2023).

14940 Proctor Avenue Built Environment Inventory and Evaluation Report, City of Industry, California. Dudek was retained to prepare a Built Environment Inventory and Evaluation Report for a food processing and industrial manufacturing building constructed in 1962 in the City of Industry for a proposed redevelopment. Mr. Kim provided quality assurance/quality control for this report (2023).

Previous Project Experience

California High-Speed Rail Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Mr. Kim served as a lead planner for the California High-Speed Rail Authority and was responsible for reviewing the cultural resources, parks and recreation, and Section 4(f) chapters for the EIR/EIS prepared for six of the eight regional sections of the California High-Speed Rail Project. Additionally, he reviewed the supporting cultural resources technical reports (inventory, evaluation, and finding of effect reports), built environment treatment plans, as well as contributed to the drafting of four memorandum of agreement documents between the California High-Speed Rail Authority, California State Historic Preservation Officer, and the Surface Transportation Board, provided technical guidance to the Authority's regional consultants, and engaged with the State Historic Preservation Officer to obtain concurrences under Section 106 and Section 4(f). (2015-2022)

Historic District Plan for the Old Sacramento Historic District, Sacramento, California. Mr. Kim authored a management plan for the historic district that included information on the predominant architectural styles that characterize the district during the period between 1849 and 1870, as well as a summary of the city's existing design standards applicable to the district and an outline for unifying the design review process (2015).

Elk Grove Citywide Historic Resources Survey and Evaluation Report, Elk Grove, California. Mr. Kim served as the lead architectural historian responsible for overseeing the inventory, historical research, and evaluations for this city-wide update of historic resources. Additionally, Mr. Kim authored an inventory and evaluation technical report for the survey and presented the findings to the Elk Grove Historic Preservation Committee (2015).

Better Market Street Project Historic Resources Evaluation Report, San Francisco, California. Mr. Kim coordinated with the San Francisco Planning Department as an architectural historian and co-author of a technical report that evaluated a two-mile segment of Market Street for potential listing in the National Register of Historic Places as a designated urban landscape associated with the work of noted landscape architect Lawrence Halprin and Modernist architects Mario Ciampi and John Carl Warnecke (2014).

Feather River CEQA/NEPA Compliance, Sutter Butte Flood Control Agency, Butte and Sutter Counties, California. The purpose of this project was to assist the Sutter Butte Flood Control Agency (SBFCA) through the Section 106 compliance and permitting process with ACOE to help facilitate construction improvements along a 40-mile segment of the Feather River Levee in Sutter and Butte Counties. As a project architectural historian, Mr. Kim assisted in the recordation, evaluation, and documentation of historic built environment resources located in the project APE in consultation with ACOE and SHPO in compliance with the Programmatic Agreement (PA) for this specific project. The survey work resulted in the identification of 99 historic-era resources within the APE, which required evaluation under NRHP Criteria. Of the resources inventoried, 17 resources were found to be eligible for the NRHP. Two of these resources are linear water conveyance/flood control structures; the Feather River Levee and the Sutter-Butte Canal. (2012–2015).

Appendix B
Interested Party Correspondence

From: Erin Jones
To: debbie.muth@sbcglobal.net
Cc: Fallin Steffen
Subject: Scotts Valley Water District Grace Way Well Project
Date: Thursday, July 6, 2023 3:53:00 PM
Attachments: Scotts Valley Historical Society_IPL.pdf

Hello Ms. Muth,

I am reaching out today on behalf of Dudek and the Scotts Valley Water District to provide you with some information about the 15045 Scotts Valley Water District Grace Way Well Project. As part of the cultural resources study for the proposed project, Dudek is consulting all regional historical organizations to determine if there are any known historic or cultural resources that may be within the proposed project area. Please see the attached letter and Location Map for more information about the nature and location of the project, and please feel free to contact me should you have questions or information regarding cultural or historical resources in this area.

Thank you,

EJ

Erin Jones, MA (They/Them)
Architectural Historian
ejones@dudek.com
1810 13th Street, Sacramento, Ca 95811

Debbie Muth, President
Scotts Valley Historical Society
1 Civic Center Drive
Scotts Valley, CA 95066

Subject: Scotts Valley Water District Grace Way Well Project

Dear Ms. Muth,

Dudek has been retained by The Scotts Valley Water District (SVWD) to complete a Built Environment Resources Inventory And Evaluation Report for the Scotts Valley Water District Grace Way Well Project (Proposed Project). The proposed Project is located within the City of Scotts Valley, which is situated in northern Santa Cruz County. The Project site encompasses one 0.33-acre parcel located at 5297 Scotts Valley Drive (Assessor's Parcel Number [APN] 022-031-13; Project site). The Project site is bounded by Grace Way to the northwest, Scotts Valley Drive to the southeast, and Service Commercial land uses to the northeast and southwest (see the enclosed Figure 1: Project Location). SVWD proposes to construct and operate one new groundwater extraction well on the SVWD-owned property comprising the Project site. The well would be 1,000 feet deep into the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin. The primary purpose of the Project is to meet SVWD customer water demand. The Project would include demolishing the existing buildings on the Project site but retaining the existing asphalt parking lot and driveway. Proposed construction includes one groundwater well, a concrete block building for pump controls; utility connections for raw water, stormwater, sewer, and electrical service, and associated site improvements.

As part of our study, we are consulting all regional historical organizations to determine if there are any known historic or cultural resources that may be affected by the Proposed Project. Your efforts in this process will provide invaluable information for the proper identification and treatment of such resources. If you have any information regarding known cultural resources in the Proposed Project area, please feel free to contact me via phone or email (listed below). All comments, emails, or letters received will be included in the reports generated by this study. Thank you for your time regarding our request.
Sincerely,

E.T. Jones

Erin T. Jones
Architectural Historian, Dudek
916.247.7918 // ejones@dudek.com

Att.: Figure 1, Project Location
cc: John Schlagheck, Catherine Wade, and Fallin Steffen, Dudek

SOURCE: ESRI 2023, County of Santa Cruz 2022

DUDEK

FIGURE 1

Project Location

Grace Way Well Project

Appendix C
DPR 523 Form Set

*P2.Location: ☐ Not for Publication ■ Unrestricted *a. County Santa Cruz
and P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Felton Quadrangle Date 2018 T 10S; R 1W; of Sec 18; Mount Diablo B.M.
c. Address 5297 Scotts Valley Drive City Scotts Valley Zip 95062
d. UTM: (Give more than one for large and/or linear resources) Zone: 10S; 587895.00 m E; 4101701.00 m N
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor's Parcel Number (APN) 022-031-13

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The subject property, addressed as 5297 Scotts Valley Drive (APN 022-031-13), is bound by Scotts Valley Drive to the east, commercial business complexes to the north and south, and Grace Way to the west (Photograph 1). See Continuation Sheet

*P3b. Resource Attributes: (List attributes and codes) HP6. 1-3 Story commercial building; HP4. Ancillary building

*P4.Resources Present: ■ Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: Photograph 1. Overview of Main (east) elevation of the Business Complex (A), facing southeast (Dudek 2023).

*P6. Date Constructed/Age and Source: ■ Historic ☐Prehistoric ☐ Both 1962 (Santa Cruz Sentinel 1962: p. 19).

P5a. Photograph 1.

*P7. Owner and Address:
Clifford and Lise Bixler
91 County Estates Drive,
Santa Cruz, California 95062

*P8. Recorded by:
John Schlagheck, Dudek
725 Front Street, Ste. 400
Santa Cruz, California, 95060

*P9. Date Recorded: 7/7/2023.

*P10. Survey Type: (Describe)
Intensive Pedestrian

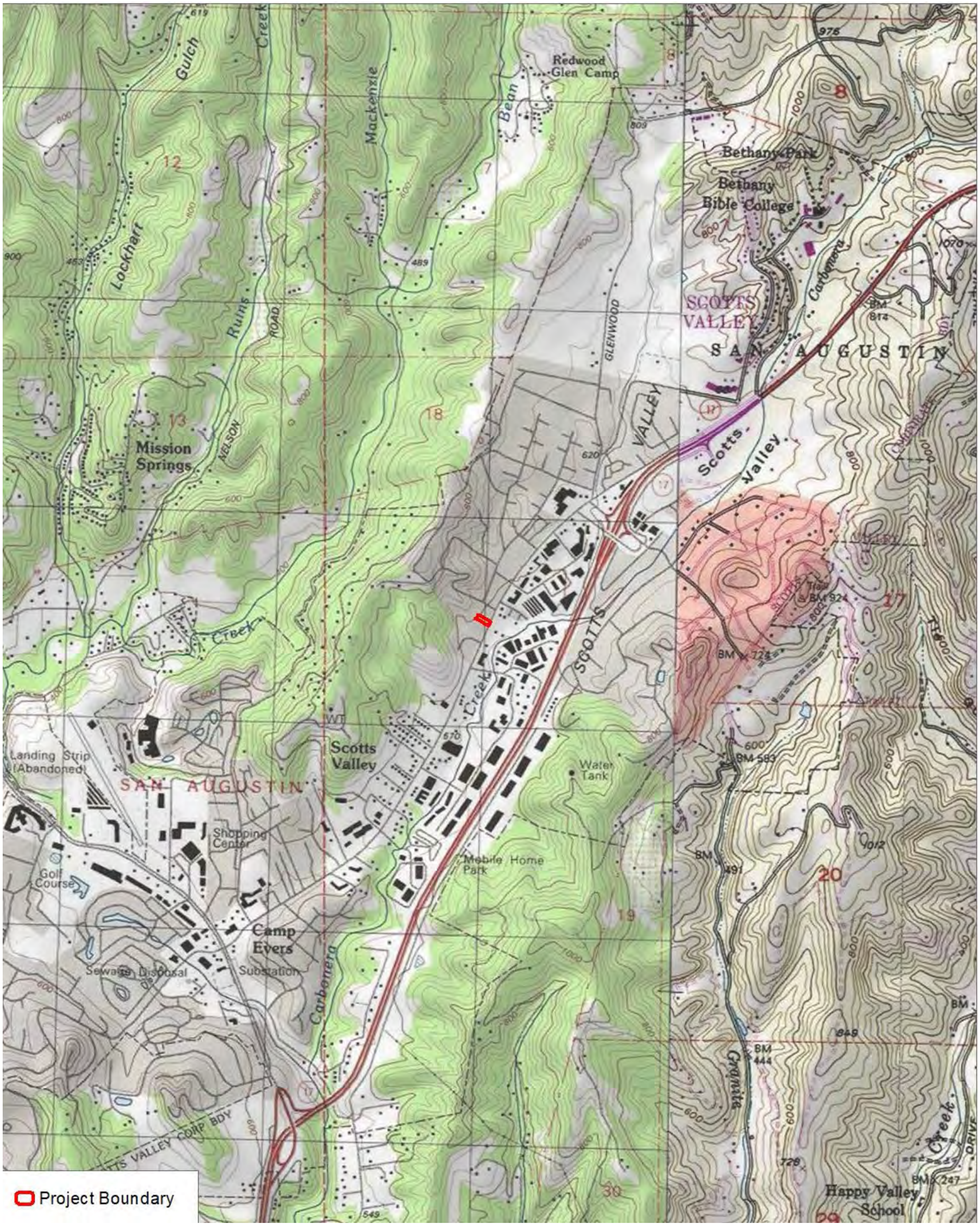
*P11. Report Citation: (Cite survey report and other sources or enter "none.") Jones, E., and Steffen, F. 2023. Built Environment Inventory and Evaluation Report. Prepared for the Scotts Valley Water District. Scotts Valley, California: Dudek. July 2023.

*Attachments: ☐NONE ■Location Map ■Continuation Sheet ■Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record

B1. Historic Name: None.
B2. Common Name: None.
B3. Original Use: Commercial B4. Present Use: Commercial
*B5. Architectural Style: One-Block Commercial Building type
*B6. Construction History: (Construction date, alterations, and date of alterations)
5297 Scotts Valley Drive was developed in 1962 as a multi-suite commercial business (See Continuation Sheet)
*B7. Moved? ■ No ☐Yes ☐Unknown Date: N/A Original Location: N/A
*B8. Related Features: N/A
B9a. Architect Unknown b. Builder: Unknown
*B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type N/A Applicable Criteria N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The subject property, located at 5297 Scotts Valley Drive, does not meet any of the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), either individually or as part of an existing or potential historic district. The property was evaluated in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code and found not to be a historical resource for the purposes of CEQA. (See Continuation Sheet)

B11. Additional Resource Attributes: None.
*B12. References: See Continuation Sheet
B13. Remarks: None
*B14. Evaluator: EJ (Erin) Jones, MA, Dudek
*Date of Evaluation: 7/26/2023



Redwood Glen Camp
Bethany Park
Bethany Bible College
SCOTTS VALLEY
SAN AUGUSTIN
Lockhart
Gulch
Creek
Mackenzie
Bean
Ruins
ROAD
NELSON
GLENWOOD
VALLEY
Scotts
Valley
Carbonera
Mission Springs
Creek
SCOTTS
Landing Strip (Abandoned)
SAN AUGUSTIN
Scotts Valley
Water Tank
Shopping Center
Golf Course
Mobile Home Park
Camp Evers
Sewage Disposal
Substation
Carbonera
Granite
Creek
Happy Valley School
Project Boundary

*P3a. Description (Continued):

The 3.26-acre rectangular subject parcel was developed in c. 1962 with two buildings, the Business Complex (A) and Outbuilding (B). A paved, striped parking lot, which is accessed via a paved, street-front driveway at the northeast corner of the property, wraps around the west, north, and east elevations of the Business Complex (A). A short wood barrier and .16-acre grass field are located west of the building complex (Photographs 1 and 2; Parcel Quest 2023a).

Photograph 2. View of the grass field, Outbuilding (B), and rear (west) elevation of the Business Complex (A) from the west boundary of the property. View looking east (Dudek 2023).

*P3a. Description (Continued):

Business Complex (A)

The Business Complex (A) is a one-story 2,048-square-foot rectangular building constructed on a raised concrete foundation. The one-story commercial block-type building has a street-facing, full-length boxed parapet that obscures a flat roofline clad in rolled asphalt material. The main (east) elevation features three identical wooden half-lite doors that access different office suites. The window lites are divided into diamond patterns by wood muntin while the lower half of the door is ornamented with four decorative triangular panels. Four large, fixed, rectangular picture windows dominate the main (east) elevation and flank each entrance. A concrete walkway and low, brick veneer ornamental wall run the length of the main (east) elevation, which is sheltered by a pent roof supported with five uniform square posts. The Business Complex (A) features board-and-batten cladding (Photograph 2).

The north and south elevations feature three symmetrical sliding windows in aluminum frames. The rear (west) elevation has two symmetrically placed doors including an original half-lite wood door (north corner) and a wood-composite panel door (south corner). The rear (west) elevation also features five asymmetrical sliding windows, with both aluminum and vinyl frames, and a projecting, boxy receptacle that is centrally located on the rear (west) elevation. The rear entrances are sheltered by a cantilevered roof (Photograph 2).

Alterations to the Business Complex (A) were observed during archival research and the pedestrian survey. At unknown times, various original aluminum-framed windows have been replaced with vinyl-framed windows, a metal security screen placed over window on the rear (west) elevation, and the parking lot appears to have been repaved and striped. In 1976, 1978, and 1981, unknown alterations were made (Santa Cruz Sentinel 1976a: p. 47; Santa Cruz Sentinel 1978: p. 32; Santa Cruz Sentinel 1981a: p. 42).

Photograph 3. The Business Complex's main (east) and north elevations with the wrap-around driveway. View facing southwest (Dudek 2023).

*P3a. Description (Continued):

Outbuilding (B)

The wood-framed Outbuilding (B) has a square footprint constructed on a mud sill and raised concrete foundation. The Outbuilding's flat roof slopes slightly to the rear (west) so rainwater drains into an exterior gutter system. The roof, which is clad in rolled asphalt shingles, extends on the east, north, and west elevations to create pronounced cantilevered eaves with wood fascia boards. The building's single entrance, located on the main (east) elevation, consists of a wood-composite panel door. The Outbuilding is clad in vertical wood, T1-11 plywood boards (Photograph 3).

The following alterations to Outbuilding (B) were observed during archival research and the pedestrian survey. At unknown times, the Outbuilding (B) appears to have been reroofed and door appears to have been replaced.

Photograph 4. The main (east) elevation and entrance to the Outbuilding, view facing east (Dudek 2023).

*B10. Significance (Continued):

Historic Context

The following historic context addresses relevant themes concerning the history of the Project site. It begins with a condensed discussion of the Spanish, Mexican, and early American periods, and a historical overview of the County before and after the development of the Scotts Valley area. The context concludes with a history of the property and subject property. For a complete historic context of present-day Santa Cruz County, the Spanish and Mexican periods, and the start of the American period, please review "The Scotts Valley Water District Grace Way Well Project, Scotts Valley, California" (Jones et al: p. 25-28).

Spanish Period (1769–1822), Mexican (1822-1848), American Period (1848-1900)

The earliest known European exploration of the Monterey Bay was a Spanish envoy mission led by Sebastián Vizcaíno in 1602. Despite being mapped as an advantageous berth for Spanish shipping efforts, the Monterey Bay area did not become the epicenter of Spanish settlement in Alta (upper) California until 1791. On August 28, 1791, Father Fermín Lasuén, Corporal Luis Peralta, and five soldiers established Mission Santa Cruz as the twelfth mission in the California Mission system (Chapman 1920: pp. 293–294; Hoover et al. 2002: pp. 225–226, 448; Lehmann 2000: pp. 3–4).

In the Mexican era, after New Spain (Mexico and the California territory) won independence from Spain in 1821, the Mexican legislative body in California over 150,000 acres of land in present-day Santa Cruz County were granted to Mexican citizens in an attempt to discourage foreign occupation. In 1841, Alta California Governor Juan Bautista Alvarado granted Rancho San Agustin, a 4,437-acre property that encompassed present-day Scotts Valley, to Juan Jose Crisostomo Majors (born Joseph L. Majors) (Hoover 2002: p. 455).

In 1848, shortly after the discovery of gold in northern California, the Mexican American War ended with the Treaty of Guadalupe Hidalgo, ushering California into its American period. As the Gold Rush picked up steam, a massive influx of gold seekers steadily flooded California's rural counties, including Santa Cruz County. By the early 1850s, Majors sold Rancho San Augustin to Hiram Daniel Scott. Scott, a native of Maine, relocated his large family, including his father, stepmother, and nine siblings, to the rancho. The name "Scotts Valley" was first used in reference to region in an 1852 Nevada Journal newspaper article (Nevada County, California). The family established a large residential farmstead (0.78 miles south of the API). As the gold fields dried up and new arrivals relocated to the County, insightful entrepreneurs saw the arrival of opportunity-seeking laborers as a means to harvest the abundant natural resources found throughout the area. The lumber, lime, cement, fishing, tanning, and leisure industries formed the economic foundation of the County (Laffey 1990; Nevada Journal 1852: p 1; Hoover 2002: p. 455; Lehmann 2000: p. 7).

In the 1860s, the completion of the railroads allowed for greater mobility to the area from the inland counties of California, by both residents and tourists alike. As the port altogether declined due to lack of use and the ease of transport by train, the natural beauty of the County presented savvy entrepreneurs with emerging opportunities. By 1893, Harper's Weekly acknowledged the County as a beach destination, promoting beachside institutions like the Neptune Baths built in 1884 by Captain C.F. Miller, and giving the coastal destinations like Camp Capitola the push needed to become national tourist destinations. The economic transition away from the early industries of the County towards tourism during this period helped to alleviate the strain placed on the forests in the north of the County, which had experienced widespread deforestation as a result of early logging and lime-production activities in that area. Few old-growth redwood specimens remained in the forests of the Santa Cruz Mountains, and as it became clear that these

*B10. Significance (Continued):

trees were capable of drawing crowds on their own, their conservation became a dual effort to both save the trees and simultaneously promote the County as a one-stop tourism destination. A tourist to the County could visit the ocean and the big trees in 1 day by taking the train (Lehmann 2000: pp.14, 25–26).

Historical Overview of Scotts Valley

The valley land around the Scott's farmstead, where they raised over 200 horses and cultivated grain, attracted industrious settlers. A French-Canadian trapper named Francisco Lajeunesse opened the County's first tannery (southeast of the API) in the valley in 1856. In the late 1850s, miners established sand (silica) and granite mining claims in the area and, shortly after, lumbermen flocked to the thickly wooded hills. As industrialists traveled to the valley, Scott saw an opportunity to profit from the region's growing industrial sector. In 1858, Scott, Charles McKiernan, and F.A. Hihn incorporated the Santa Cruz Turnpike Company and constructed a stagecoach road (near the general alignment of Scotts Valley Drive) from Santa Cruz, through Scotts Valley, over the summit of the Santa Cruz Mountains, and into Los Gatos. At first, one stagecoach ran per week, and the road was primarily used to transport commercial goods and freight. But as the region's tourism industry grew, additional stagecoaches were added to the line and an increased number of travelers visited Scotts Valley. As the area's beauty, rich agricultural land, and plentiful natural resources attracted settlers between the mid- and late nineteenth century, Scott's Valley was developed with dairies, farms, lumber operations, and sand and gravel quarries (Koch 1973: p. 34; Laffey 1990).

While many flocked to the area to exploit its natural resources, the redwoods and Santa Cruz Mountains also attracted nature seekers. In the 1880s, early settler D.M. Lock rented his second residence on Bean Creek to campers from nearby cities. By 1887, several resorts and campgrounds had opened along the creek. Scotts Valley also became home to religious retreats, and, by the turn of the century, several religious groups had established properties with conference grounds in the area. The original State Highway 17 (now Scotts Valley Drive), which ran between Santa Cruz and Santa Clara Valley, was constructed through the area in the 1920s along the route of the old stage road. The increased automobile traffic nurtured commercial and residential development and the rise of roadside attractions. In the mid-1920s, Edward N. Evers established Camp Evers at the intersection of Highway 17 and Mt. Hermon Road (approximately 1.3 miles from the Subject Property). Camp Evers consisted of a rest stop with a small store, gas pumps, a dance hall, and tents for guests to camp overnight. The Beverly Gardens opened in the early 1930s and featured a small collection of exotic birds and animals, a restaurant, and cabins. Additional roadside attractions established in Scotts Valley during the mid- to late twentieth century included Axel Erlandson's "The Tree Circus," which featured trees bent into unusual shapes (knots, hearts, zigzags) and life-sized painted dinosaurs. The largest attraction was the year-round "Santa's Village," a Christmas-themed amusement park. From the late nineteenth to mid-twentieth century, Scotts Valley's small economy depended on a variety of diverse businesses including agriculture, the lumber and mining industries, and the roadside entertainment and restaurants that lined Highway 17. In the late 1950s, the Santa Cruz Highway (modern State Route 17) was constructed east of the community, bypassing the town's commercial thoroughfare (Brown 2011: pp. 91, 171; Scotts Valley Chamber of Commerce 2023; Laffey 1990).

Although the pattern of community growth was altered by the construction of the Santa Cruz Highway, development continued into the 1960s as communities in the Santa Cruz Mountains modernized their water systems. Since their initial development, mountain towns had drawn their water from nearby springs and creeks via flumes which, when the County's population doubled between 1900 and 1940, became inadequate. Frequent droughts between 1912 and 1939 convinced San Lorenzo Valley leaders to form a water district to better control water and to serve the needs of

*B10. Significance (Continued):

valley residents. Although Scotts Valley refused to join the San Lorenzo Valley Water District when it was established in 1941, they saw the need for their own district by the early 1960s. In 1961, SVWD was formed by a vote and merged multiple small water supply systems that pulled water from the Santa Margarita Groundwater Basin for domestic, commercial, and municipal purposes. In the mid-1960s, SVWD established a sewer system, tying it into a City of Santa Cruz treatment plant. The SVWD continued to expand and, as a result of drought, actively began to manage groundwater resources with the development of a water resources management plan (SLVWD 2023; Santa Cruz LAFCO 2021: p. 6; SVWD 2023; Brown 2011: pp. 185, 209–210, 241, 250)

Scotts Valley's commercial district, however, suffered from the construction of the Santa Cruz Highway, which impacted the town's financial wellbeing. In the early 1960s, Scotts Valley residents were further infuriated when the County's planning department approved plans for a mortuary and cemetery across from Santa's Village. In 1962, to prevent the cemetery's development, Scotts Valley community associations organized a campaign to undercut the County by incorporating as a city. In 1966, residents overwhelmingly approved of the plan. Despite their attempts to save Santa's Village and similar roadside attractions, the businesses could not survive after Santa Cruz Highway's construction. In addition to the amusement park, the Tree Circus (which had been renamed Lost World), Reed and Graham Concrete Plant, and Johnnies Produce Stand (a grocery) also closed. Although Scotts Valley's main thoroughfare was largely shuttered, real estate developers were attracted by the community's picturesque location between Santa Cruz and the Santa Clara Valley. In the late 1970s and 1980s, developers constructed residential subdivisions and transformed Scotts Valley into a bedroom community located between the City of Santa Cruz and Santa Clara County's urban centers. Technology companies, including Seagate Technology, Victor Technologies, and Netflix, found an early home in Scotts Valley. Between 1970 and 1990, Scotts Valley grew from having a population of just over 3,500 residents to over 8,600 people (Brown 20011: p. 171; Oppenheimer 2016; Biggest U.S. Cities 2023).

Between 2001 and 2004, many of the valley's newest employers—the technology firms—relocated to Silicon Valley and were replaced with businesses including Central Home Supply, Bay Photo Lab, Bell Helmet, and Zero Motorcycles. Scotts Valley has continued to grow steadily in the early twenty-first century and, in 2020, reached a population of over 12,200 residents. As of 2023, the valley's largest industries include healthcare services, manufacturing, and the technology sectors (Oppenheimer 2016; Biggest U.S. Cities 2023).

Development of 5297 Scotts Valley Drive

5297 Scotts Valley Drive (APN 022-031-13), which consists of the Business Complex (A) and an Outbuilding (B), was originally constructed in 1962. Archival research failed to indicate who designed, constructed, or originally owned the property, but historical newspaper sources suggest that a large number of occupants have conducted business at the property over time. The commercial Business Complex (A) opened with three individual suites addressed as 5297 Scotts Valley Drive, 5299 Scotts Valley Drive, and 5301 Scotts Valley Drive. The building's first occupants include Redmont Realty, which established an office at the property in 1962, and the Scotts Valley Property Owners Association, which opened their "Incorporation Campaign Office" at the property in 1963. Dr. Donald Earl Seapy (1931–2008) was the third tenant to move into a suite in the building when he established a medical clinic in the Business Complex (A). Seapy's practice was the first medical clinic to open in Scotts Valley (Santa Cruz Sentinel 1962: p. 19; Santa Cruz Sentinel 1963a: p.6; Santa Cruz Sentinel 1963b: p. 5; Santa Cruz Public Libraries 2023).

*B10. Significance (Continued):

The Scotts Valley Incorporation Campaign Office likely closed after the City's successful incorporation in the mid-1960s. By 1968, Seapy had hired two additional practitioners and the needs of his clinic outgrew the single office suite. In 1969, Seapy did not renew the lease at 2957 Scotts Valley Drive and relocated his practice to 4663 Scotts Valley Drive, where he established the (extant) Scotts Valley Medical Center. Photographer Norman Burns, owner of Scott's Valley Photography, assumed the suite's lease. Redmont Realty continued to operate from the property throughout the 1960s and 1970s (Santa Cruz Sentinel 1963b: p. 5; Santa Cruz Sentinel 1968: p. 4; Santa Cruz Public Libraries 2023; Santa Cruz Sentinel 1970: p. 2; Santa Cruz Sentinel 1976a: p. 31).

By 1976, David Ulric Stone and Iva Dell had purchased the property and obtained a building permit (alterations unknown). Shortly after the Stones' renovation, Burns's photography studio was replaced by "Scotts Valley 2 Way Shoppe," a communications equipment sales and services business. In 1978, Redmont Reality was rebranded as one of seven "Red Carpet Realty" offices but continued to conduct business from the property. The Stones gained a second building permit in 1978, also for unidentified alterations. By 1981, the Stones appear to have sold the property (APN 022-031-13) to the current owners, James Joseph and Rella S. Lee. In 1981, the Lees obtained a building permit (for unknown alterations). Within the same year, Attorney Judson T. Farley assumed a lease at the property and maintained occupancy for 8 years until, in 1989, he relinquished the suite to a new occupant, Coldwell Banker, Carl Connelly Realtors. The realty company maintained an office at the property until the early 2000s (Santa Cruz Sentinel 1976a: p. 47; 1976b: p. 11; 1978: p. 32; 1981a: p. 42; 1983: p. 25; 1996: p. 57; 1996: p. 57; 2004: p. 45).

Between 2000 and 2023, 5297 Scotts Valley Drive appears to have had a variety of tenants, including Transporter Auto Services, REES Construction, a contracting firm, and Bullseye Archery. The property continues to be owned by the Lee family; the sole tenant is the pet store Eloise and Annie (Google 2023; Parcel Quest 2023d).

Architectural Typology: One-Part Commercial Block

This building type originated in the mid-nineteenth century as an architectural staple across the rapidly expanding United States. One-part commercial block buildings were an affordable investment for developers building a speculative commercial district and easily satisfied the swelling demand for services. The one-block commercial block building type comprises a single-story structure with a flat roof that may be used as the cornerstone unit for a future larger, multistory structure. The utilitarian building type is typically located in urban and suburban settings, modestly ornamented, and has a primary elevation that faces the street (Longstreth 1987: p. 17; Kremer 2023).

Most wood-frame, one-part commercial blocks constructed during the nineteenth century were used as retail stores. One-part commercial blocks were also designed for banks, but these were generally of masonry construction and more embellished than their retail counterparts. Retail-oriented commercial block buildings evolved little in the twentieth century except for the inclusion of parapeted main elevations, which allow for affordable individualization, and large expansions of fixed glass windows on the main elevation. Grouped units became a ubiquitous feature along urban railroads, streetcar lines, and city roads (Longstreth 1987: p. 17; Kremer 2023).

By the 1920s, one-part commercial block buildings in suburban areas were designed with more ornamental flair, to be visually harmonious with their domestic surroundings. The popularization of automobiles and resulting traffic congestion also fostered the concept that low-density commercial development was preferable. The most pronounced

*B10. Significance (Continued):

transition occurred in the form of drive-in shopping centers, where most the building was set back from the street to provide spacious off-street parking. After World War II, emphasis was placed on the building's horizontal elements to accentuate a clean, uniform design. The one-story commercial block building style has evolved little since the mid-twentieth century (Longstreth 1987: p. 17; Kremer 2023).

Characteristics of one-story commercial block building properties include:

- Buildings one-story in height
- Emphasis on horizontal elements
- Large, fixed picture windows that face the street
- Sizable wall areas often used for advertising space and signage
- Mass-produced building materials

Significance Evaluation

National Register of Historic Places/California Register of Historical Resources Statement of Significance

The property located at 5297 Scotts Valley Drive (APN 022-031-13) does not meet any criteria for listing in the NRHP, CRHR, or City of Scotts Valley Register of Historic Places.

Under NRHP Criterion A and CRHR Criterion 1, the API lacks any direct and/or important association with events or themes that have made a significant contribution to the broad patterns of local, state, or national history. The area's commercial sector began to develop in earnest when Highway 17 was constructed through the community in c. 1925. Restaurants, shops, and roadside attractions developed along the highway and, as new businesses were established, the economy grew. Growth ended in c. 1955 when the new Santa Cruz Highway (State Route 17) was constructed east of the town's business district. The Santa Cruz Highway's development significantly impacted Scotts Valley's commercial development along its former main thoroughfare, Scotts Valley Drive. The API, constructed in 1962, is a representation of Scotts Valley's continued commercial activity in the mid-twentieth century. As such, the property legally cited as 5297 Scotts Valley Drive is recommended as not eligible under NRHP/CRHR Criterion A/1.

Under NRHP Criterion B and CRHR Criterion 2, the API lacks a significant association with the productive life of any person important in local, state, or national history. Archival research does not indicate that either of the API's identified owners, David and Iva Stone or James and Rella Lee, have made significant contributions to the area, state, or nation's history. While archival research also failed to yield information on many of the tenants who occupied the property over time, one of the API's first tenants, Dr. Donald E. Seapy, appears to have been an important person within the context of Scotts Valley history. In 1963, Seapy established the community's first medical office on the subject property and operated the business from the site until 1969. Despite being a significant person in Scotts Valley's history, Seapy only conducted business from the API for a short time before he relocated to 4663 Scotts Valley Drive and established the

Scotts Valley Medical Center, which is still in operation today. As such, the property is not known to be directly associated with the place where a person has conducted their important work and is not eligible under NRHP/CRHR Criterion B/2.

*B10. Significance (Continued):

Under NRHP Criterion C and CRHR Criterion 3, the API lacks distinctive characteristics of a type, period, or method of construction, is unlikely to represent the work of a master, and does not possess high artistic value. Research did not reveal the architect or builder of this property, but due to the utilitarian style of the building, it is unlikely that it would be associated with the work of a master architect. The utilitarian office-type building, which is composed of ubiquitous and prefabricated materials, is not emblematic of a type, period, or method of construction nor does it possess high artistic value. Consequently, the subject property is recommended not eligible under NRHP Criterion C or CRHR Criterion 3.

There is no evidence to suggest that the property located at 5927 Scotts Valley Drive has the potential to yield information important to prehistory or history. Therefore, the property does not appear eligible under NRHP/CRHR Criterion D/4.

City of Scotts Valley Historical Resources Statement of Significance

Under local designation criterion 1, the property lacks a significant association with persons, eras, or events that have contributed to Scotts Valley, California, or the nation's history in a distinctive way. The API was developed after Scotts Valley's initial period of economic growth, and archival research has failed to associate the property with any other theme significant to local, regional, or national history. Archival research indicates that a person of local historical importance, Dr. Donald E. Seapy, conducted his medical practice from the property for a number of years. In 1963, Seapy moved to Scotts Valley and opened the community's first medical center. Seapy grew his practice at the API and hired two new practitioners. By 1969, the needs of the clinic had outgrown the API and, to continue to meet the needs of the community, Seapy chose to relocate his practice. Seapy relocated to 4663 Scotts Valley Road and established the Scotts Valley Medical Center, which continues to serve the community today.

Under local designation criterion 2, the API lacks an identifiable association with a distinctive work or important vestige. The buildings located at 5297 Scotts Valley Drive, the Business Complex (A) and Outbuilding (B), are of the ubiquitous one-story commercial block building type and is composed of utilitarian building materials. The API's architectural style lacks historical value, design, or a method of construction that suggests it may have been constructed by a notable architect, engineer, builder, artist, or craftsman. Archival research also failed to indicate that a master craftsman was involved with the development of the property. The API, which is not a distinctive work, has not yielded information of value about history or culture and is unlikely to provide future generations an example of the physical surroundings in which past generations have lived and worked.

Under local designation criterion 3, the property located at 2957 Scotts Valley Drive does not exemplify or reflect special elements or characteristics of the community of Scotts Valley, the State of California, or the nation's cultural, social, economic, political, aesthetic, engineering, or architectural history. Archival evidence does not indicate that the subject property exemplifies characteristics of Scotts Valley's cultural or social heritage. The Business Complex (A) has been occupied by private enterprises since its development in c. 1962 and has never been used as a community gathering place or played a role in the City's social and cultural development.

Economically, the area's commercial sector developed in 1925 when Highway 17 was constructed through the community. Roadside and tourist attractions developed alongside the transportation network and thrived until the mid-1950s, when the Santa Cruz Highway was constructed east of the town's business district. The road's establishment significantly

*B10. Significance (Continued):

impacted the town's economy and altered the characteristic tourist industry. 2957 Scotts Valley Drive, established in c. 1962, is not associated with the town's economic development and is representative of Scotts Valley's continued commercial activity in the mid-twentieth century. In 1963, the Scotts Valley Incorporation Campaign Office was established at the property. Although the organization played a role in the incorporation of Scotts Valley as a city, archival research does not indicate that the subject property played a role in the City's incorporation. It does not appear that the City's boundaries were drawn at the incorporation office and the vote occurred elsewhere. As such, 2957 Scotts Valley Drive does not reflect the political development of Scotts Valley.

The buildings located at 2957 Scotts Valley Drive lack distinctive characteristics of a type, period, or method of construction and do not possess high artistic value. The utilitarian office-type building, which is composed of ubiquitous and prefabricated materials, is not emblematic of Scotts Valley's aesthetic, engineering, or architectural history. Consequently, the subject property is recommended as not eligible under local criterion 3.

Integrity Evaluation

Because the buildings at 2957 Scotts Valley Drive lack sufficient significance to meet any of the criteria for listing in the NRHP, CRHR, and the Scotts Valley local register, an integrity analysis was considered immaterial. Since the evaluations found that neither of the buildings possess historical significance, and therefore no analysis of their physical integrity is required.

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Appendix E
Results of Modeled Groundwater Impacts from New Well Pumping

TECHNICAL MEMORANDUM

DATE:	November 2, 2023	PROJECT #: 9050.2201
TO:	Scotts Valley Water District	
FROM:	Georgina King, P.G., C.Hg.	
PROJECT:	New Production Well - Grace Way Well	
SUBJECT:	Results of Modeled Groundwater Impacts from Proposed Well Extraction	

INTRODUCTION

Scotts Valley Water District (SVWD or District) is planning a new production well to provide redundancy to the District's water system which relies almost entirely on groundwater. A well site has been selected at the District-owned property at 5297 Scotts Valley Drive, Scotts Valley, California. To evaluate the impacts on groundwater from pumping at this location, the Santa Margarita Basin groundwater model (Model) was used to simulate additional drawdown caused by the proposed well on nearby production wells and monitoring wells.

MODEL SIMULATION ASSUMPTIONS

An existing basin model was updated and improved as part of the Groundwater Sustainability Plan (GSP) process. The 2022 Santa Margarita Basin GSP (M&A, 2022) Appendix 2E documents construction of the Model. The Model predictive simulation period is from Water Year (WY) 2019 through WY 2073 and includes hydrology reflecting climate change. The climate change conditions applied to the Model are a statistical sample of 4 global circulation models in the CMIP5 ensemble. During the predictive period, the overall effects of climate change are slightly lower average annual precipitation and a warming trend.

The baseline simulation used in the GSP is the modeled condition where no projects or management actions planned as part of GSP implementation are included. That baseline simulation was revised slightly to reflect the District's most recent plans to take Wells 11A and 11B out of production due to age and deteriorating well conditions. Future pumping from WY 2024 and after is based on an assumed annual 1% increase in demand using WY 2023 extraction as the starting point. Figure 1 shows the extraction distribution for District wells in the baseline simulation. Well locations are shown on Figure 2.

The proposed well will be screened in both the Lompico and Butano aquifers, as are existing Orchard, Well 3B, and the soon-to-be-constructed replacement of Well 3B.

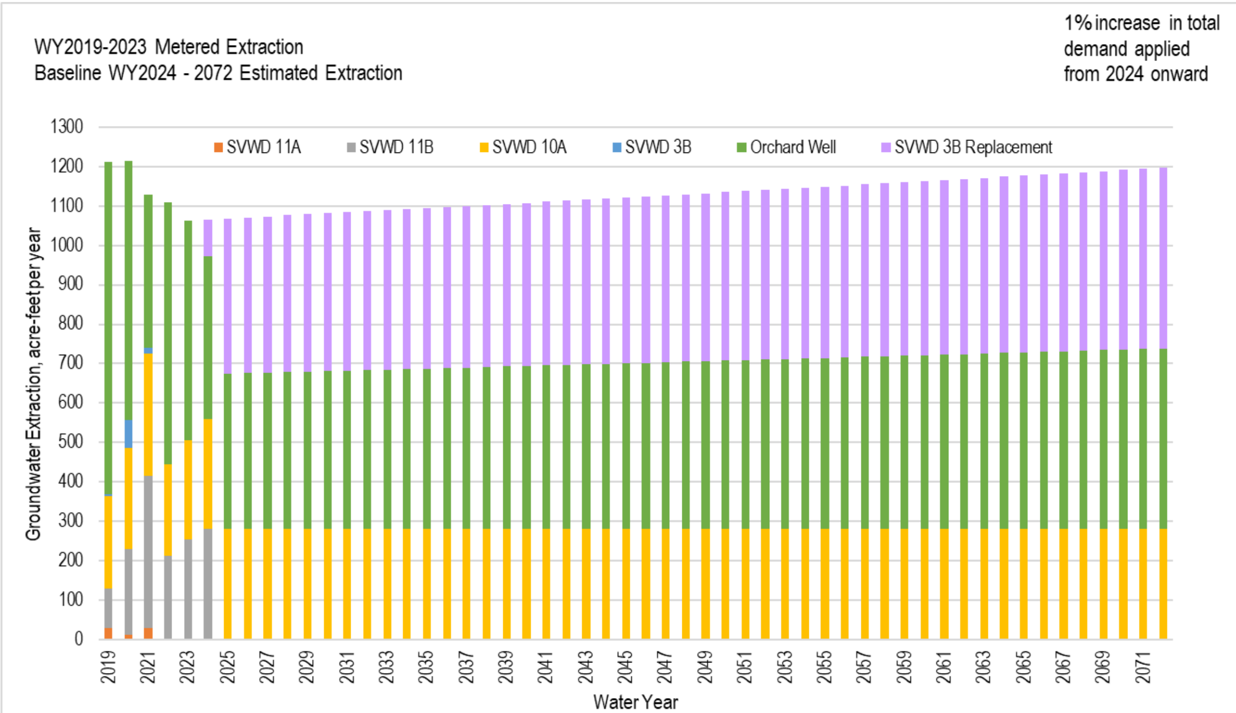

Figure 1. District Extraction Distribution for the Baseline (No Project) Scenario

The project scenario assumes the same annual District extraction as the baseline simulation but adds the proposed well in WY 2025. Extraction from the Orchard Well, Well 3B's replacement well, and the proposed well is divided equally after accounting for extraction from Well 10A.

For the predictive simulation, the assumed annual volume extracted by the proposed well starts in WY 2025 at 270 acre-feet per year (AFY) with a projected annual demand increase of 1%, until WY 2073 when 313 AFY is extracted (Figure 3). The Model has monthly time steps and so annual pumping is apportioned to each month based on historical monthly demand in the District. The average monthly pumping is shown on the lower chart of Figure 3. Figure 4 shows project scenario annual extraction for all District wells, including the proposed well.

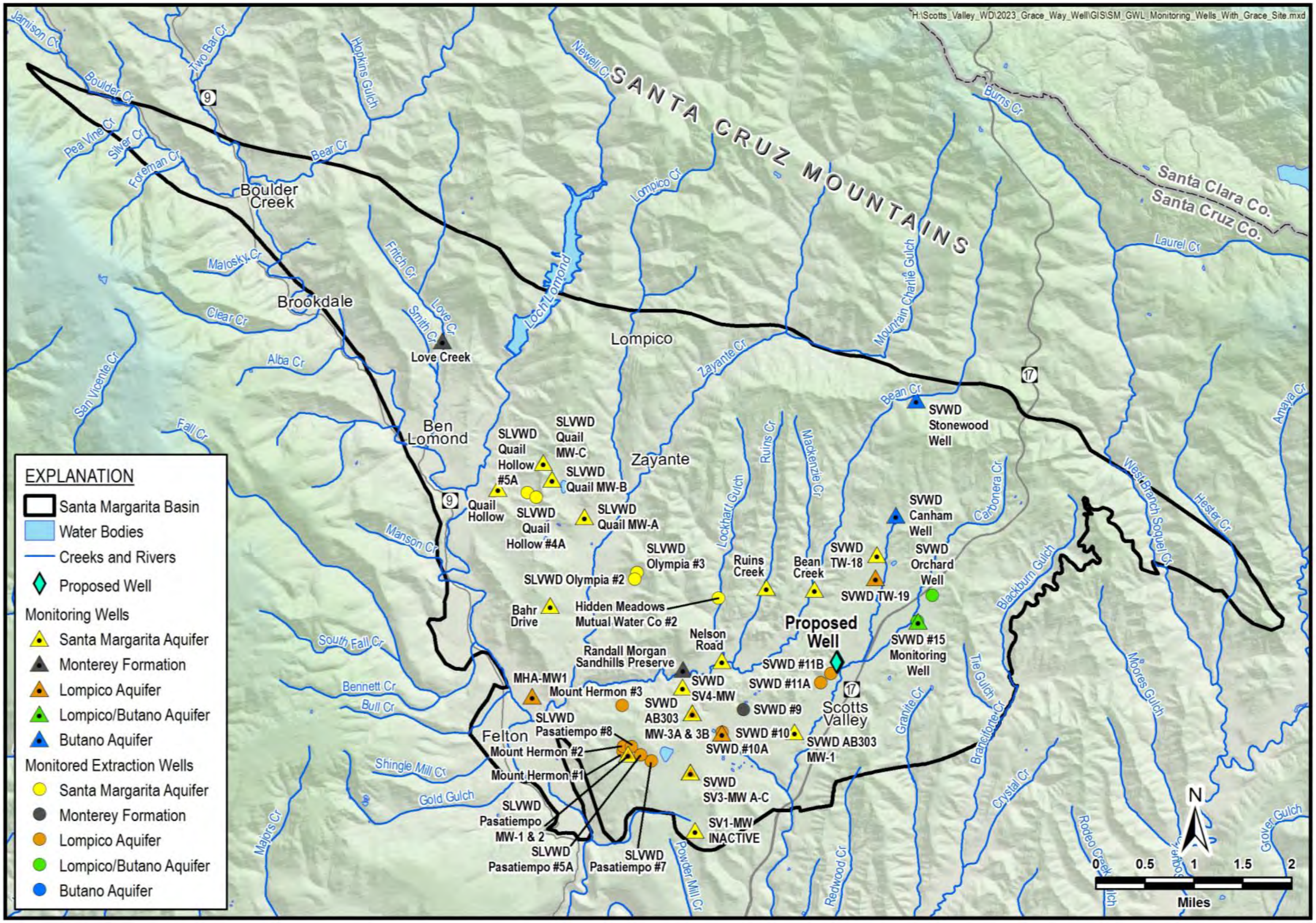

Figure 2. Santa Margarita Basin Well Locations

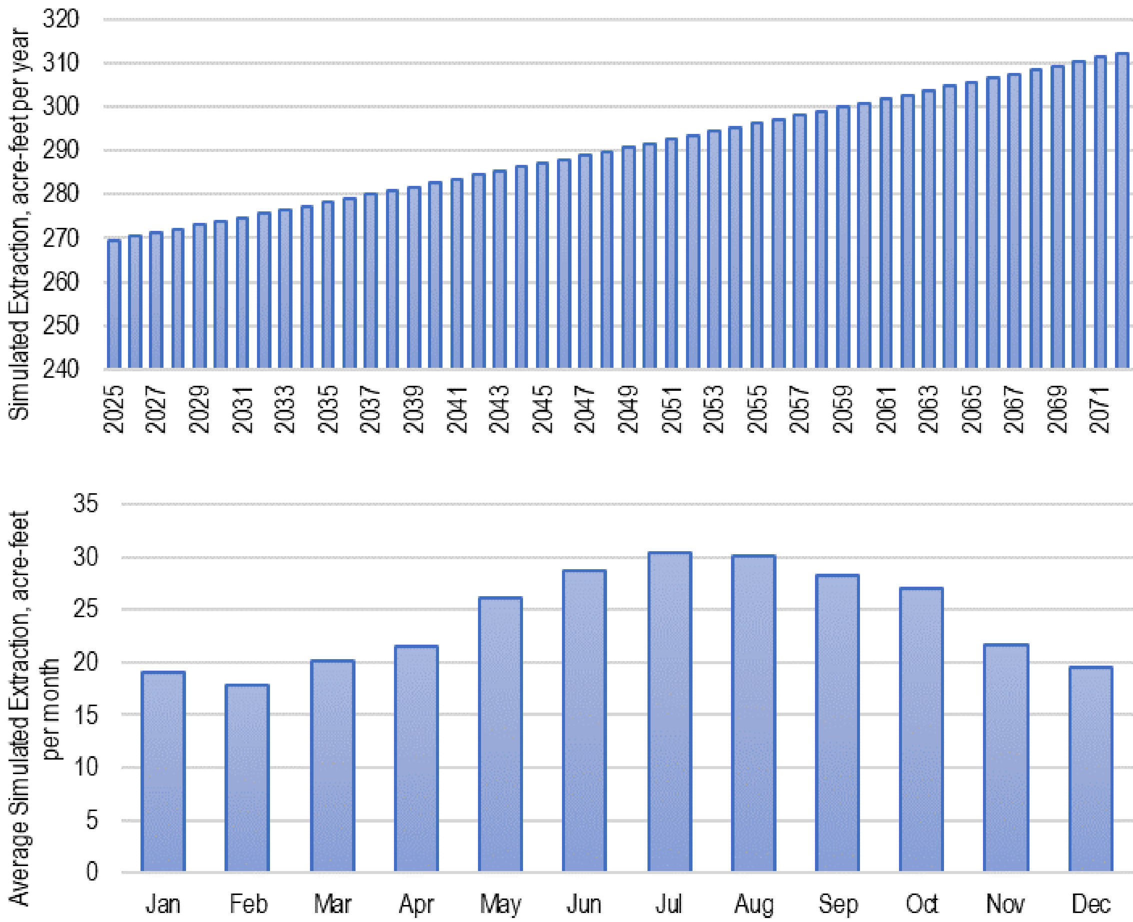

Figure 3. Assumed Simulated Extraction at Proposed Well

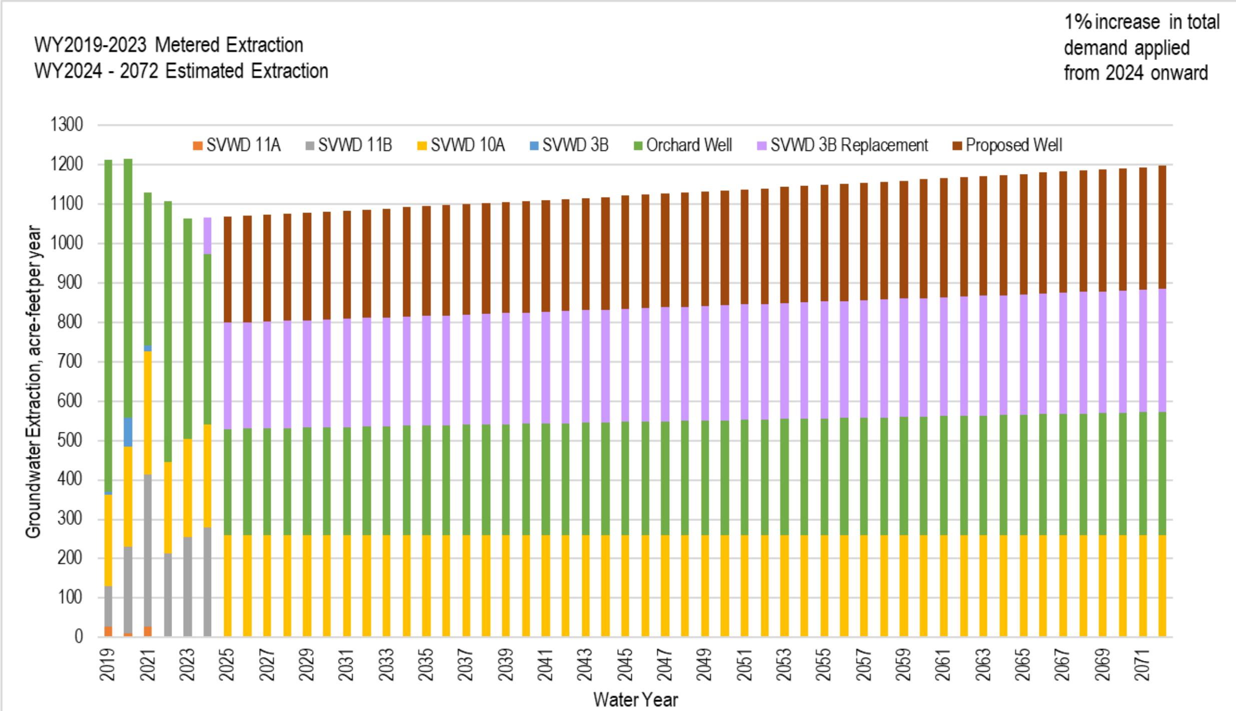

Figure 4. District Extraction Distribution Under the Project Scenario

SIMULATION RESULTS

Predicted change in groundwater levels at the proposed well and other nearby wells in response to pumping over the predictive simulation are shown on hydrographs for each well. Changes in groundwater levels at both monitoring and extraction wells are summarized in Table 1.

Table 1. Summary of Difference in Groundwater Levels between Project Scenario and Baseline

Wells	Distance from Proposed Well (feet)	Groundwater Level Difference between Project Scenario and Baseline (feet)		
		Maximum Lowering	Maximum Rise	Average Difference
Proposed Well	---	31	0	-22
Well 11B	750	18	0	-13
Well 11A	1,460	16	0	-11
Well 3B / 3B Replacement	4,900	0	89	+63
SVWD Monitor #15	4,900	0	43	+31
SVWD TW-19	4,900	0	1.5	+0.9
Orchard Well	6,200	0	99	+69
Well 10A (monitored by Well 10)	7,400	9	0	-6

Notes: positive average difference indicates groundwater levels rise and negative average difference indicates groundwater levels decline.
Wells in italics are Representative Monitoring Points in the GSP.

Under the project scenario, groundwater levels at the proposed well are lowered as much as 31 feet below baseline (no project conditions), with an average drawdown of 22 feet over the entire simulation. A hydrograph showing how groundwater elevations fluctuate over the simulation period are shown on Figure 5.

Even though there is localized groundwater level drawdown associated with pumping the proposed well, there will not be impacts to domestic wells because the area around the proposed well is within the District's service area and there are no domestic drinking water wells nearby. Simulated impacts to municipal water supply wells are described below.

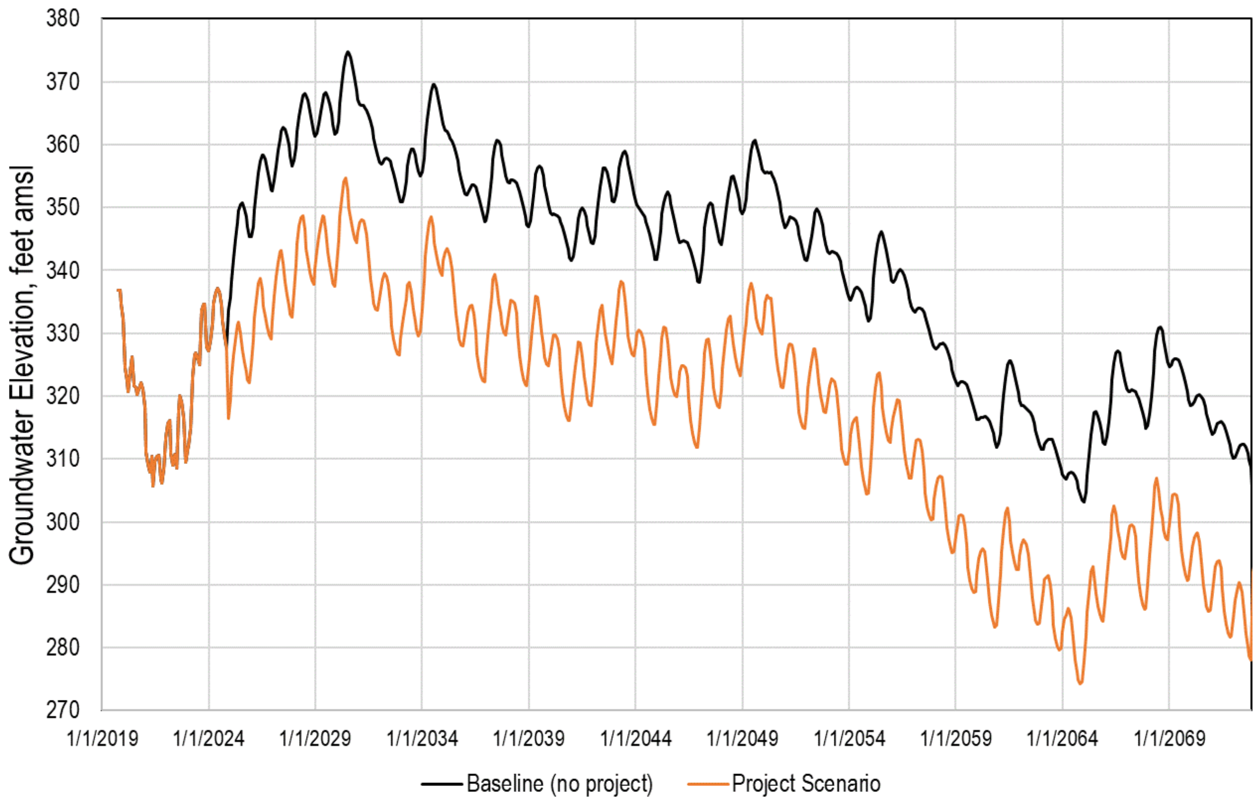

Figure 5. Simulated Groundwater Elevations at Proposed Well Screened in Lompico and Butano Aquifers

Groundwater elevations for the baseline and project scenario at nearby extraction wells and Representative Monitoring Points (RMPs) in the GSP screened in the Lompico or Butano aquifers are provided on Figure 6 through Figure 12. Wells screened in the Santa Margarita aquifer and Monterey Formation, which occur above the Lompico and Butano aquifers, have no response to pumping at the proposed well and therefore hydrographs are not included.

A well's groundwater level response from the proposed well pumping depends on how much water it extracts and on its proximity to the proposed well. Of all the District extraction wells, Well 10A is farthest away (1.4 miles or 7,400 feet) from the proposed well and Well 11B (0.14 miles or 750 feet away) is the closest. Distances of the wells from the proposed well are included in Table 1. By adding the proposed well as an additional supply source, groundwater levels in existing Lompico/Butano aquifer extraction wells (Well 3B/3B Replacement and Orchard Well) increase in the project scenario over the baseline because their pumping is reduced (Figure 8 and Figure 11). There is reduced pumping in these wells because their combined extraction can be spread between 3 wells once the proposed well comes online. Wells 11A and 11B will experience the greatest impact because they are closest to the proposed well, but since these wells are planned to be taken out of production, the potential operational impact to them is immaterial. Well 10A is simulated to have up to 9 feet of drawdown which is a minimal operational impact.

Wells that are RMPs have minimum thresholds and measurable objectives included on the hydrographs. With the proposed well pumping, groundwater elevations in RMPs remain above their respective minimum thresholds through 2042, when the SMGWA needs to achieve sustainability. After WY 2058, Well 11A and SVWD Monitor #15 project scenario groundwater elevations begin to fall below the minimum thresholds which is considered an undesirable result per the GSP. Although SVWD Monitor #15 levels fall below its minimum threshold, the project scenario improves groundwater levels in the existing area of Lompico/Butano aquifer extraction area (Well 3B/3B Replacement and Orchard Well) over baseline conditions. Projects and management actions are expected to be implemented well before 2042 to raise groundwater levels closer to measurable objectives, therefore providing the buffer needed to prevent groundwater levels falling below the minimum thresholds simulated in the project scenario hydrographs on Figure 7 and Figure 9. Since projects and management actions have not yet been developed, they were not included in the baseline scenario. SVWD TW-19, a RMP in the Butano aquifer, has a slight increase in levels due to the project allowing for less extraction at Well 3B/3B Replacement and Orchard Well (Figure 10). Project scenario groundwater levels in SVWD TW-19 do not fall below minimum thresholds over the model simulation.

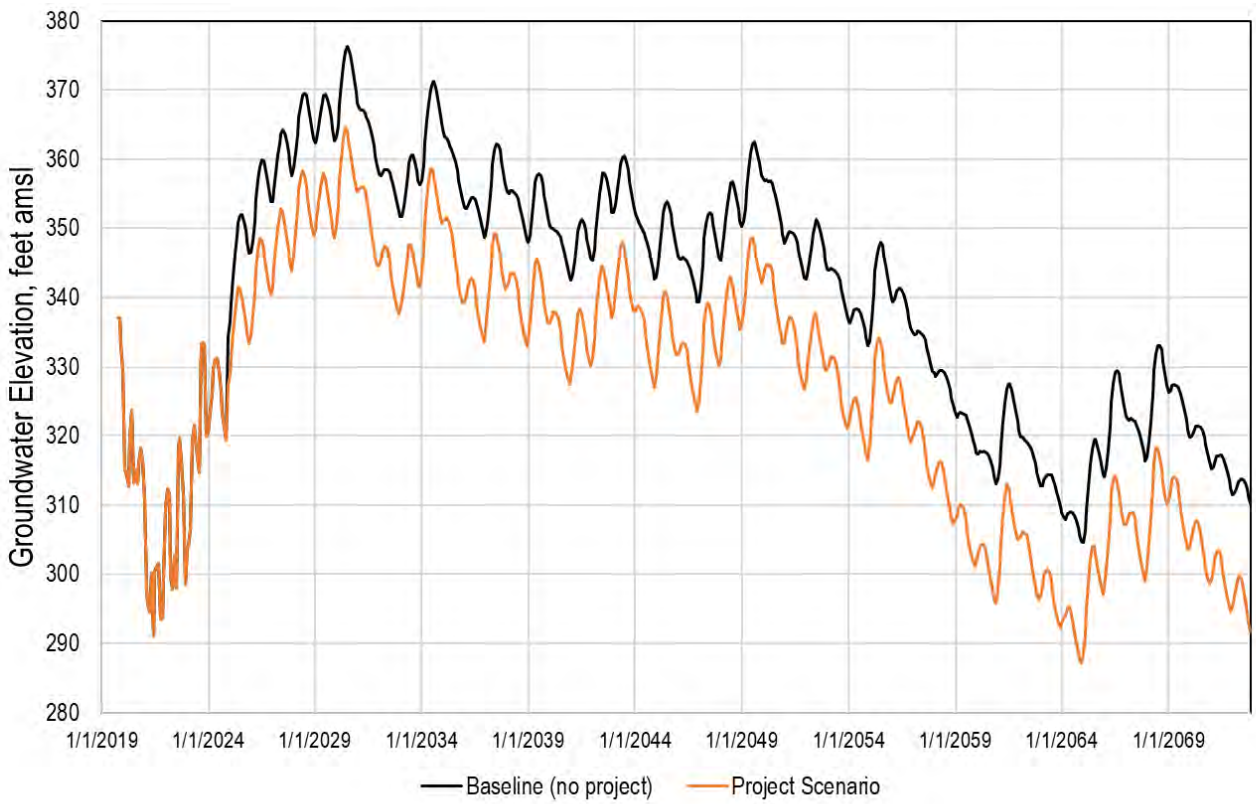

Figure 6. Simulated Groundwater Elevations at SVWD's Well 11B Screened in Lompico Aquifer

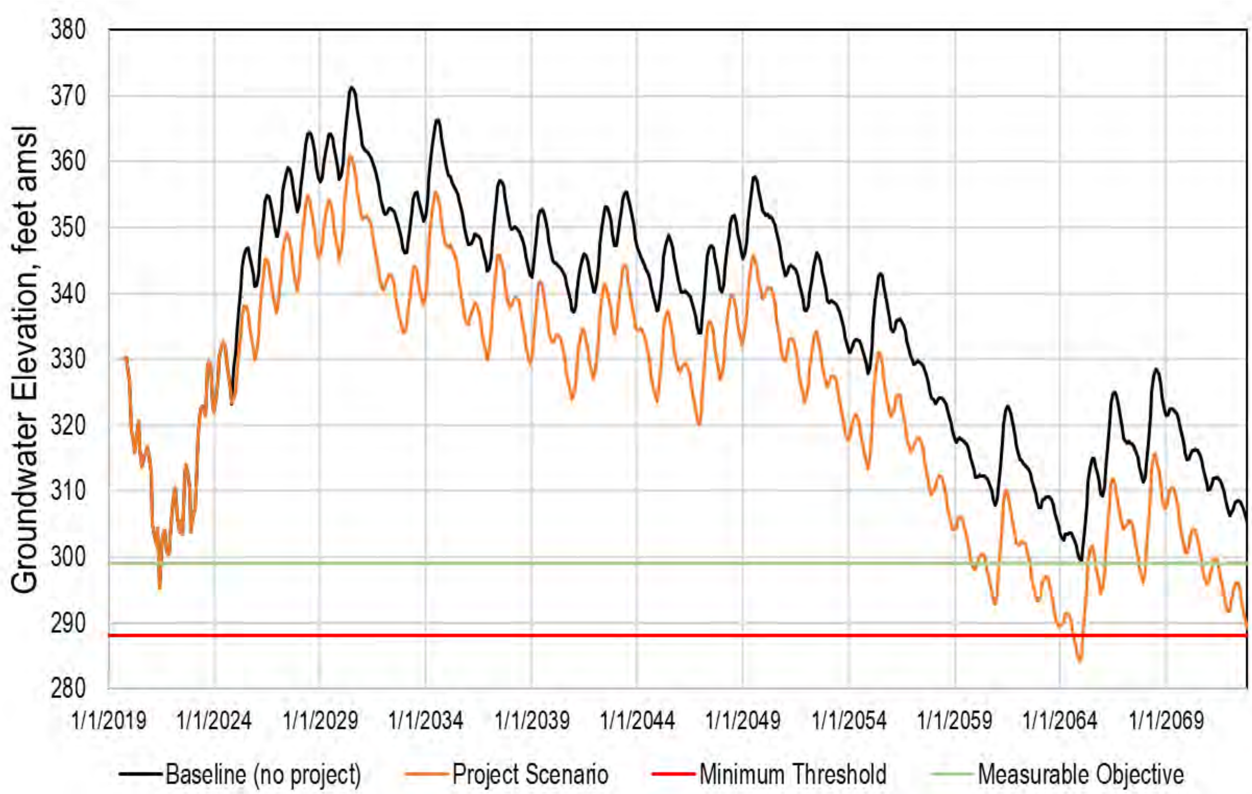

Figure 7. Simulated Groundwater Elevations at SVWD's Well 11A Screened in Lompico Aquifer

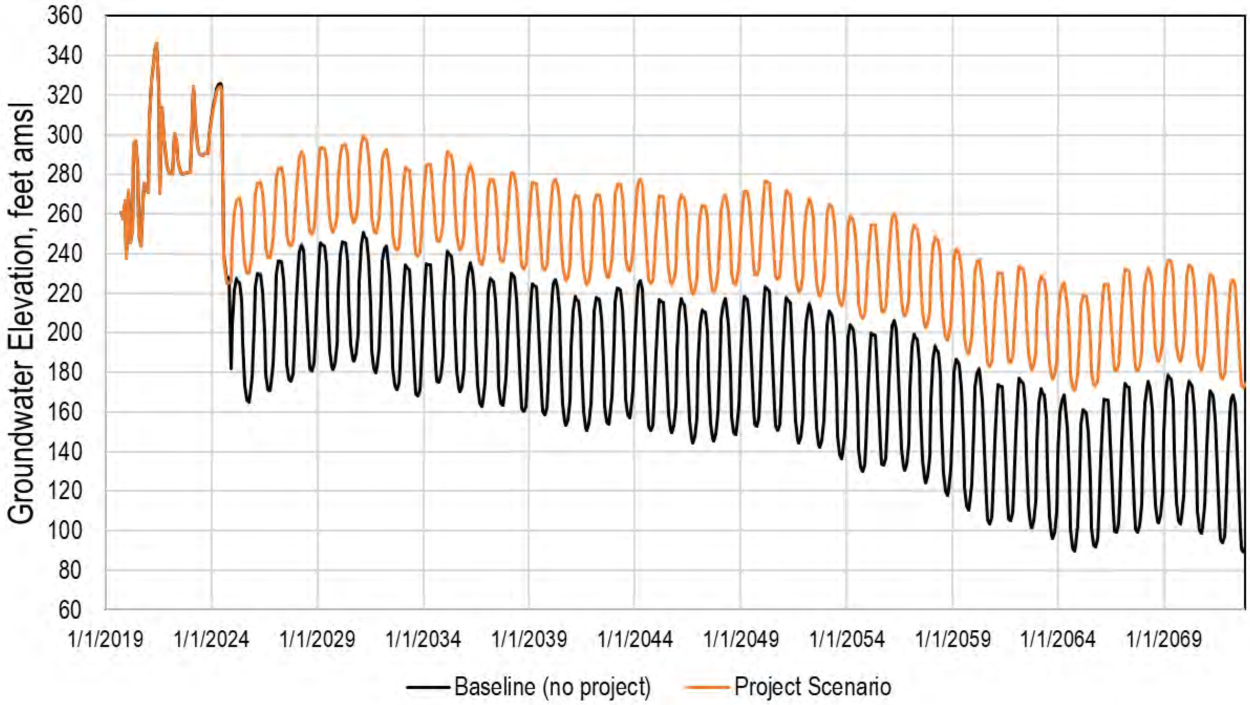

Figure 8. Simulated Groundwater Elevations at SVWD's Well 3B/3B Replacement Screened in Lompico and Butano Aquifers

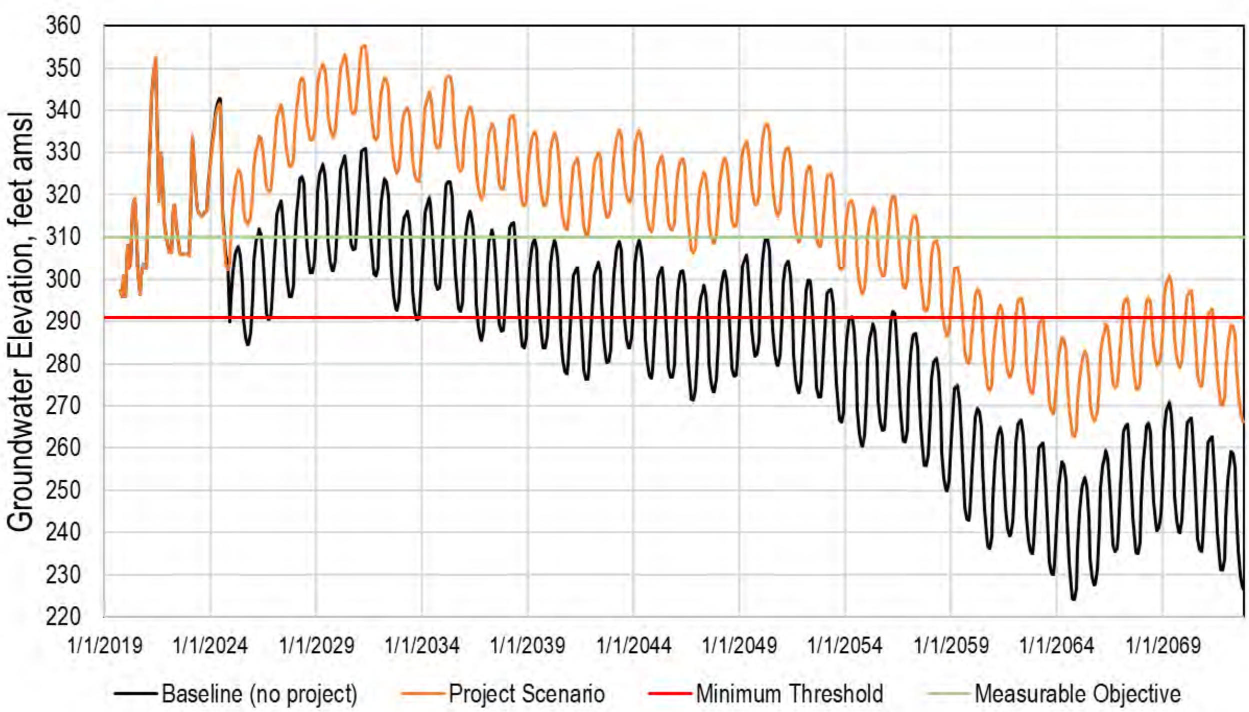

Figure 9. Simulated Groundwater Elevations at SVWD Monitor #15 Screened in Lompico and Butano Aquifers

Figure 10. Simulated Groundwater Elevations at SVWD TW-19 Screened in Butano Aquifer

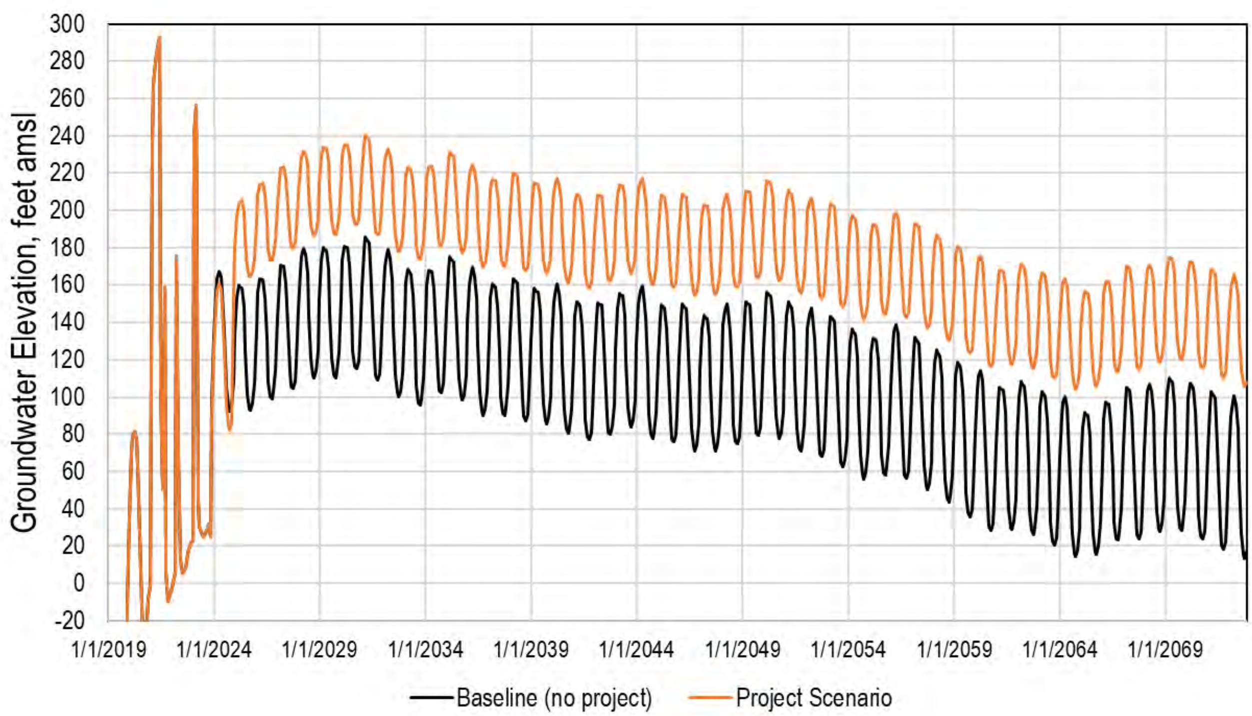

Figure 11. Simulated Groundwater Elevations at SVWD's Orchard Well Screened in Lompico and Butano Aquifers

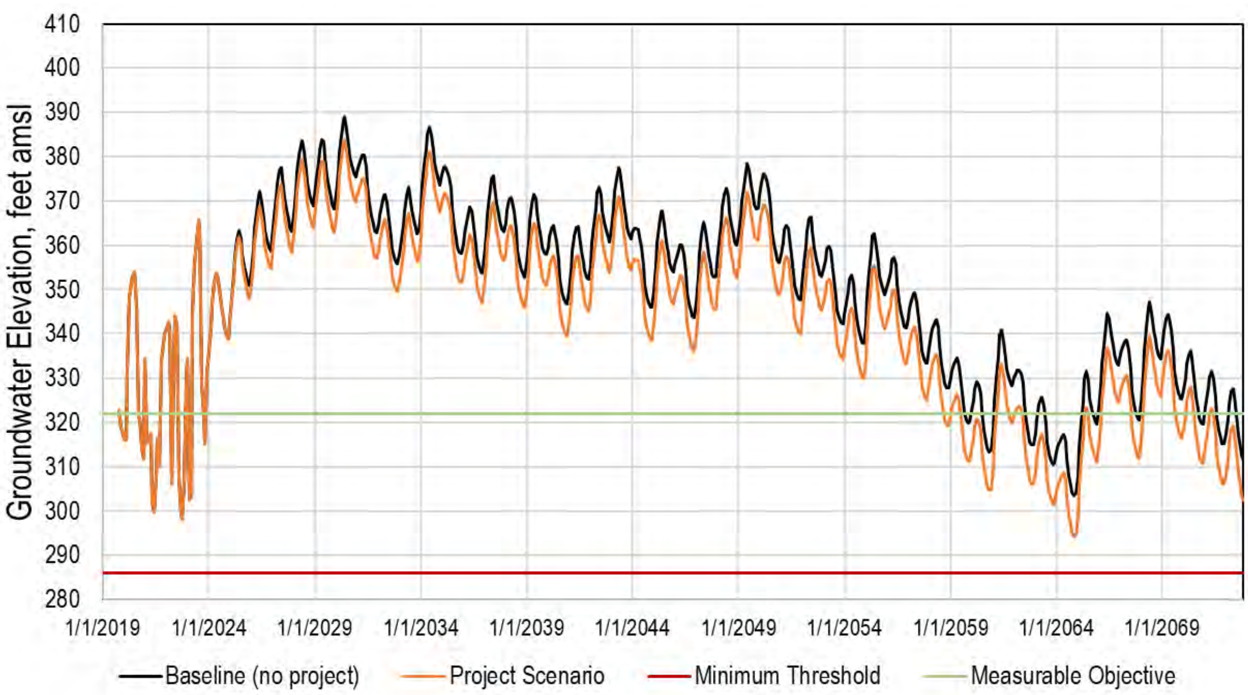

Figure 12. Simulated Groundwater Elevations at SVWD's Well 10/10A Screened in Lompico Aquifer

CONCLUSIONS

Pumping 270 to 313 AFY (88 to 102 million gallon per year) at the proposed well will cause groundwater levels in the immediate vicinity of the proposed well to fall as much as 31 feet below no project levels. North of the proposed well, Well 3B/3B Replacement, SVWD Monitor #15, SVWD TW-19, and Orchard Well experience increased groundwater levels because the proposed well allows pumping in existing District water supply wells to be reduced. South of the proposed well, Well 11A, Well 11B, and Well 10 may experience between 9 to 18 feet of groundwater level decline. The project scenario demonstrates that the proposed well allows pumping to be redistributed, which improves groundwater levels in existing Lompico/Butano aquifer wells and minimally causes drawdown in Lompico aquifer wells to the south.

When projects and management actions are implemented to reduce native groundwater extraction, the proposed well should not cause groundwater levels at RMPs to fall below minimum thresholds.

REFERENCES

Montgomery & Associates [M&A]. 2022. Santa Margarita Basin Groundwater Sustainability Plan, prepared for the Santa Margarita Groundwater Agency, January.

Appendix F
Mitigation Monitoring and Reporting Program

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F Mitigation Monitoring and Reporting Program

The California Environmental Quality Act (CEQA) requires that when a lead agency adopts a mitigated negative declaration, it shall prepare and adopt a mitigation monitoring and reporting program (MMRP) for all required mitigation measures (CEQA Guidelines Section 15097). This MMRP is intended to be used by Scotts Valley Water District (SVWD) staff, its contractors, and mitigation monitoring personnel to ensure compliance with mitigation measures during project construction and implementation. Mitigation measures identified in this MMRP were developed during the preparation of the Initial Study prepared for the Grace Way Well Project.

The MMRP is provided in Table F-1 and includes all mitigation measures identified in the Initial Study and, for each measure, the party responsible for implementation and implementation timing. The MMRP also includes the SVWD's operational practice applicable to the Project, which would be implemented by the SVWD during Project operation.

Table F-1. Grace Way Well Project Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
MITIGATION MEASURES		
Biological Resources		
MM BIO-1: Pre-Activity Surveys for Nesting Birds. Within 14 days prior to any ground-disturbing activities or vegetation clearing during the nesting season (January 15 to September 15), a qualified biologist or biological monitor shall conduct a pre-activity nesting bird survey of all potential nesting habitat within the Project site, including a 100-foot buffer for passerine species and a 300-foot buffer for raptors. If no active nests are found during this survey, a second and final survey shall be conducted within 48 hours prior to construction to confirm that nests are still absent. If there is a lapse between the survey time and initiation of work activities of 14 days or greater, the nesting bird survey shall be repeated. If active nests are found during the survey, work in that area shall stop and a qualified biologist or biological monitor shall determine an appropriate no-work buffer around the nest based on the activity and species and mark the buffer using flagging, pin flags, lathe stakes, or similar marking method. No work shall occur within the buffer until the young have fledged or the nest(s) are no longer active, as determined by the biologist or biological monitor.	SVWD responsible for hiring qualified biologist to conduct surveys.	Preconstruction survey: Within 14 days prior to the initiation of construction activities, and if no active nests are found, no more than 48 hours prior to the initiation of construction activities.
Cultural and Tribal Cultural Resources		
MM CUL-1: Discovery of Unique Archaeological Resources, Historical Resources of Archaeological Nature, and Subsurface Tribal Cultural Resources. If archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all soil-disturbing work within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards can evaluate the significance of the find. The archaeologist will determine whether additional study is warranted. Should it be required, the archaeologist shall install temporary flagging around a resource to avoid any disturbances from construction equipment. If the resource has potential to be a unique archaeological resource, a historical resource of an archaeological nature, or a subsurface tribal cultural resource, the qualified archaeologist, in consultation with the lead agency, shall prepare a research design and archaeological evaluation plan to assess whether the resource should be considered significant under CEQA criteria. If the resource is determined significant, the lead agency shall provide for preservation in place. If preservation in place is not possible, the qualified archaeologist, in consultation with the lead agency, will prepare a data recovery plan for retrieving data relevant to the site's significance. The data recovery plan shall be implemented prior to, or during, site development (with a 100-foot buffer around the resource). The archaeologist shall also perform appropriate technical analyses, prepare a full written report and file it with the Northwest Information Center, and provide for the permanent curation of recovered materials. The written report will provide new recommendations, which could include, but would not be limited to, archaeological and Native American monitoring for the remaining duration of Project construction.	SVWD responsible for hiring a qualified archaeologist to evaluate the find and, if warranted, prepare the plans.	Include measure in construction specifications and contracts: Prior to construction. Evaluate resources: During construction.

Table F-1. Grace Way Well Project Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
MM CUL-2: Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, immediately notify the lead agency and the Santa Cruz County Coroner of the discovery. The coroner will decide the nature of the remains within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, can occur until a determination has been made. If the County Coroner determines that the remains are, or are believed to be, of Native American ancestry, the coroner will notify the Native American Heritage Commission within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the Native American Heritage Commission will appoint a Most Likely Descendant (MLD), who will be authorized to provide recommendation to the lead agency regarding the preferred treatment of the remains and any associated objects and/or materials.	SVWD responsible for notifying coroner.	Implementation of measure: During construction.
Geology and Soils		
MM GEO-1: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring. Prior to commencement of any grading activity on site, the Scotts Valley Water District shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project that shall be consistent with the SVP (2010) guidelines and include the following: preconstruction meeting attendance and worker environmental awareness training; locations where paleontological monitoring is required within the Project site based on construction plans and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. Costs for laboratory and museum curation fees (if fossils are recovered) shall be the responsibility of the Scotts Valley Water District. A qualified paleontological monitor shall be on site during initial rough grading and other significant ground-disturbing activities, including large diameter (two feet or greater) drilling below a depth of five feet below the ground surface. No paleontological monitoring is necessary during ground disturbance within artificial fill, determined to be present. In the event that paleontological resources (e.g., fossils) are unearthed during grading or drilling, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.	SVWD responsible for hiring qualified paleontologist to prepare the PRIMP and conduct worker training and monitoring. SVWD responsible for inclusion of paleontological resource protection clauses in construction specifications and contracts.	Include measure in construction specifications and contracts: Prior to construction. PRIMP preparation and worker training: Prior to site grading or excavation. Monitoring: During grading and ground disturbance as specified in the PRIMP.

Table F-1. Grace Way Well Project Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
Hydrology and Water Quality		
MM HYD-1: Implement Stormwater Control During Construction. Erosion control and stormwater pollution prevention best management practices (BMPs) shall be implemented to prevent the discharge of construction waste, sediment, debris, or contaminants during construction activities. BMPs shall include, but would not be limited to, the following: ▪ Installation of perimeter sediment controls such as silt fences, fiber or straw rolls, and/or bales along limits of work/construction areas; ▪ Minimizing temporary stockpiling of excavated material, locating stockpiled spoils in areas where it cannot enter the storm drain system, and covering of stockpiled spoils; ▪ Revegetation and physical stabilization of disturbed graded and staging areas; ▪ Sediment control including fencing, dams, barriers, berms, traps, and associated basins; ▪ Wind erosion controls such as watering active construction areas as necessary to control fugitive dust, covering inactive storage piles, and covering all trucks hauling dirt or loose materials off site; ▪ Storage of hazardous materials within an established containment area; ▪ Inspection of construction equipment daily for leaks of oil, lubricants, or other potential stormwater pollutants, placement of plastic over any ground surface where fueling or equipment maintenance is to occur, and placement of drip pans under equipment parked on site; and ▪ Keeping emergency spill kits and an adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) on site at all times.	SVWD responsible for including measure in construction specifications. Contractor responsible for implementation during construction.	Include measure in construction specifications and contracts: Prior to construction. Implementation of BMPs: During construction.
Noise		
MM NOI-1: Construction Noise. The Scotts Valley Water District and its contractor shall implement appropriate best management practices (BMPs) to reduce construction noise levels emanating from construction activities with a primary goal to minimize disruption and annoyance at existing noise-sensitive receptors in the Project vicinity. A detailed construction noise reduction plan shall be developed identifying the schedule for major noise-generating construction activities and procedures for coordination with the owner/occupants of nearby noise-sensitive land uses, so that construction activities can be scheduled to minimize noise disturbances. The Project's contractor shall implement, but would not be limited to, the following measures related to construction noise: ▪ Restrict construction activities and use of equipment that have the potential to generate significant noise levels (e.g., use of concrete saw, mounted impact hammer, jackhammer, rock drill, etc.) to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays.	SVWD responsible for including measure in construction specifications. Contractor responsible for implementation during construction.	Development of noise reduction plan: Prior to the initiation of construction activities. Implementation of measure: During construction.

Table F-1. Grace Way Well Project Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
▪ Construction activities requiring operations continuing outside of daytime hours (e.g., borehole drilling) shall locate noise-generating equipment as far as feasibly possible from noise-sensitive receptors. ▪ Construction equipment and selection thereof shall make use of quiet technologies where such technologies or models exist. ▪ Maximum physical separation, as far as practicable, shall be maintained between construction equipment and adjacent noise-sensitive land uses/receptors. ▪ Construction equipment and vehicles shall be fitted with efficient, well-maintained mufflers that reduce equipment noise emission levels at the Project site. Internal-combustion-powered equipment shall be equipped with properly operating noise-suppression devices (e.g., mufflers, silencers, wraps) that meet or exceed the manufacturer's specifications. Mufflers and noise suppressors shall be properly maintained, tuned, and inspected on a routine basis to ensure proper fit, function, and minimization of noise. ▪ Impact tools shall have the working area/impact area shrouded or shielded whenever possible, with intake and exhaust ports on power equipment muffled or suppressed and directed away from nearby noise-sensitive receptors. This may necessitate the use of temporary or portable, application-specific noise shields, enclosures, or barriers. ▪ Site support equipment such as pumps, generators, air compressors and other stationary noise-generating equipment shall be located within acoustically treated enclosures, shrouded, or shielded to prevent the propagation of sound in the direction of nearby noise-sensitive receptors in the surrounding areas, regardless of construction hours. Acoustical enclosures, shrouds, or temporary barriers shall meet or exceed a sound transmission class (STC) rating of 27 or greater. ▪ Construction equipment shall not be idled for extended periods of time (i.e., 5 minutes or longer) in the immediate vicinity of noise-sensitive receptors or when not foreseeably in use. ▪ The contractor shall designate and identify a "disturbance coordinator" who will be the responsible point of contact for construction noise concerns or complaints. The disturbance coordinator's contact phone number along with the appropriate Scotts Valley Water District contact information shall located on a sign, conspicuously placed and clearly visible to the public. The disturbance coordinator will determine the cause of the noise complaint and respond to or implement corrective action within 48-hours, to resolve the issue(s) which the complaint is regarding. All complaints shall be logged, noting the date, time, issuing party's name and contact information, the nature of the complaint, and any corrective action taken to resolve the issue.		

Table F-1. Grace Way Well Project Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
STANDARD OPERATIONAL PRACTICE		
Operation of the extractions anticipated by the Project will be consistent with sustainable management criteria developed by the SMGWA, including ensuring undesirable results identified in the DWR-approved Santa Margarita Groundwater Basin GSP and in any future revisions to the GSP do not occur. To avoid any undesirable results in the Santa Margarita Groundwater Basin and to maintain groundwater basin sustainability, minimum threshold groundwater elevations identified in the GSP at representative monitoring points close to the Project cannot be exceeded during operation of the Project. If groundwater elevations approach minimum thresholds in representative monitoring points close to the Project, the SVWD would need to redistribute pumping amongst its other wells or implement conjunctive use or managed recharge projects.	SVWD responsible for monitoring groundwater levels, redistribution of pumping, or implementation of projects.	Implement measure during operation.

Appendix G
Public Comments and Responses

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G Public Comments and Responses

On November 20, 2023, the Scotts Valley Water District (SVWD) circulated for public review a Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the Grace Way Well Project (Proposed Project). As required by Section 15073 of the California Environmental Quality Act (CEQA) Guidelines, the Draft IS/MND was circulated for a minimum of 30 days. The comment period closed on December 20, 2023. The SVWD received one comment letter on the Draft IS/MND after the close of the public review period. The comments received on the Draft IS/MND are addressed in this appendix.

Section 15074(b) of the CEQA Guidelines requires the decision-making body to consider the IS/MND and comments received on it prior to considering the Proposed Project for approval. Responses to comments are not required by CEQA, although responses may be provided at the discretion of the lead agency. The City has prepared responses to comments received on the Draft IS/MND as part of this Final IS/MND.

Comments were received on the Draft IS/MND from the California Department of Fish and Wildlife (received December 18, 2023). The comment letter and responses to comments are provided on the following pages.

G.1 Letter from California Department of Fish and Wildlife

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

December 15, 2023

Mr. David McNair
Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, CA 95066
DMcnair@svwd.org

Subject: Grace Way Well Project, Mitigated Negative Declaration,
SCH No. 2023110536, City of Scotts Valley, Santa Cruz County

Dear Mr. McNair:

The California Department of Fish and Wildlife (CDFW) has received and reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) prepared by the Scotts Valley Water District (District) for the Grace Way Well Project (Project), located in Santa Cruz County, pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

CDFW submits these comments on the IS/MND to inform the District, as the CEQA Lead Agency, of potentially significant impacts to biological resources associated with the Project.

1 **CDFW ROLE**

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the state. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting these comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority. (Fish & G. Code, § 1600 et seq.). Likewise, to the extent the Project may result in "take," as defined by state law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Under CESA, "take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code, § 86). If the Project will impact CESA listed species, early consultation with CDFW is encouraged, as significant modification to the Project and mitigation measures may be required to obtain an ITP. CDFW's issuance of an ITP is subject to CEQA and to facilitate permit issuance, any such Project modifications and mitigation measures must be incorporated into the IS/MND's analysis, discussion, and mitigation monitoring and reporting program.

1 cont'd

CEQA requires a mandatory finding of significance if a Project is likely to substantially impact threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064 & 15065). In addition, pursuant to CEQA, the Lead Agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports Findings of Overriding Consideration (FOC) for impacts that remain significant despite the implementation of all feasible mitigation. FOC under CEQA, however, do not eliminate the Project proponent's obligation to comply with the Fish and Game Code.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes, streams, rivers, or associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final IS/MND and complied with its responsibilities as a responsible agency under CEQA.

Raptors and Other Nesting Birds

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

PROJECT DESCRIPTION SUMMARY

Proponent: Scotts Valley Water District

1 cont'd

Objective: The Project consists of the construction and operation of a new groundwater extraction well on Scotts Valley Water District-owned property in the City of Scotts Valley. The well would extract groundwater from the Lompico and Butano aquifers of the Santa Margarita Groundwater Basin (SMGB). The District relies solely on groundwater extraction to supply water through their service area. The Project would allow for increased extraction and redundancy as older wells are taken out of service in order to meet potential demand. The well would have a design capacity of 600 gallons per minute and could be operated for short intervals or continuously. The Project includes construction of a new groundwater well, a concrete block for pump controls, utility connections, and other site improvements. The Project would demolish the existing buildings on the site but keep the asphalt parking lot.

Timeframe: Construction of the Project is expected to begin in spring 2024 and would continue for approximately 10 months. Construction is expected to occur in two phases, the first would begin with mobilization and site preparation, demolition of the existing buildings and well drilling. The second phase includes construction of the aboveground facilities. Well drilling would require a continuous 24 hour per day, 7 day per week schedule over a total of 36 days.

ENVIRONMENTAL SETTING AND LOCATION

The Project is located at 5297 Scotts Valley Drive, in the City of Scotts Valley, on an approximately 0.33-acre parcel (APN 022-031-13). The site is surrounded by service commercial land uses to the northeast and southwest and rural residential and high-density residential to the northwest. The southwestern half of the Project is developed

1 cont'd

with a 2,000-square-foot commercial building, a smaller ancillary building, a parking lot and driveway. The northwestern half of the Project site is undeveloped and consists of ruderal grassland vegetation. Large coast live oak (*Quercus agrifolia*) trees and redwood forest is present to the north and west. There are no trees on the Project site and there will be no tree removals associated with the Project. Carbonera Creek is located southeast of the Project site, across Scotts Valley Drive. No riparian habitat is present on the property.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the District in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on biological resources.

COMMENT 1: Groundwater Extraction Evaluation and Environmental Beneficial Use Protection

Issue: The Project has potential to significantly negatively impact groundwater elevation and groundwater dependent ecosystems (GDE) associated with the SMGB. The Project relies on minimum threshold groundwater elevations identified in the SMGA Groundwater Sustainability Plan (GSP) that CDFW does not consider protective of fish and wildlife resources (as previously commented on in CDFW's March 2022 comment letter on the GSP).

2

In addition, the connection between groundwater pumping and interconnected surface water flows is not largely understood throughout the Santa Margarita basin. Most analysis is based on models and not actual data.

Evidence the impact would be significant: Section 2.2.4.4.2 of the Santa Margarita Groundwater Agency's GSP describes the Lompico Aquifer stating, "The restricted exposure of the Lompico Sandstone at the surface, at the northern and northeast margin of the Basin, limits the amount of surficial recharge by precipitation.… The limited exposure of the Lompico Sandstone at the surface and the confined to semi-confined nature of the aquifer makes it relatively slow to respond to rainfall-driven recharge events. The Lompico aquifer discharges to the San Lorenzo River at several locations where it is exposed in the riverbed, see cross section B-B' (Figure 2-20)" (Santa Margarita Groundwater Agency, 2021, pg. 84). Sufficient surface flows are necessary to conserve the ecosystem upon which listed and special-status species within the San Lorenzo River watershed depend.

The Public Trust Doctrine imposes an obligation to consider how groundwater management and projects affect public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to surface waters is also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses. (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419). Groundwater managers have "an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible." (*National Audubon Society*, *supra*, 33 Cal. 3d at 446). Accordingly, groundwater managers should consider potential impacts to and appropriate protections for interconnected surface waters (ISW) and their tributaries, and ISWs that support fisheries, including the level of groundwater contribution to those waters.

Recommendation: The Project MND should provide a more robust analysis of potential impacts to surface flow in the San Lorenzo River and other surface waters particularly during low flow periods. The analysis should disclose any changes to hydrology over time across multiple water year types and consider all life stages of coho salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss*) and other aquatic species potentially present within affected surface waters. Specifically, the Lompico
2 cont'd
aquifer's limited recharge capability as well as the Project's potential to impact to the aquifer's discharge contribution into the San Lorenzo River should be considered and evaluated as part of the environmental review for this Project. An operational plan that clearly articulates the triggers for a redistribution of pumping should be developed for this Project. These triggers for redistribution of pumping should go into effect prior to the monitoring wells indicating that levels have hit minimum thresholds and instead should be implemented when a trend indicating levels are approaching minimum thresholds is occurring.

CDFW suggests the District consider implementing groundwater recharge projects that facilitate floodplain inundation. These projects offer multiple benefits including downstream flood attenuation, groundwater recharge, and ecosystem restoration. Managed floodplain inundation can recharge floodplain aquifers, which in turn slowly release stored water back to the stream during summer months. These projects also reconnect the stream channel with floodplain habitat, which can benefit juvenile salmonids by creating off-channel habitat characterized by slow water velocities, ample cover in the form of submerged vegetation, and high food availability.

CDFW strongly encourages proceeding with an environmentally conservative and protective interim approach when developing groundwater extraction projects. The District should carefully consider and protect environmental beneficial uses and users of groundwater, including fish and wildlife and their habitats, GDEs, and ISWs.

COMMENT 2: Temporary Construction Lighting during Night Work

3 **Issue:** The IS/MND states that continuous drilling for 24 hours per day, 7 days a week for up to 36 days may be required to complete the Project. While the IS/MND states that

3 cont'd

a temporary barrier would be installed to reduce light and noise from the Project site, the Project has potential to increase impacts to light sensitive species in the area.

Occurrences: The IS/MND states that there is low potential for pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Santa Cruz black salamander (*Aneides niger*), and California giant salamander (*Dicamptodon ensatus*) to occur on the Project site. CDFW designates these species as California Species of Special Concern (SSC). A purpose of the SSC designation is to promote increased protections before the species require listing under CESA.

Evidence the impact would be significant: Night lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Phototaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004).

Amphibians such as frogs and salamanders are particularly susceptible to artificial light pollution. Light pollution may affect physiology, behavior, ecology, and evolution of frog and salamander populations (Wise, 2007). For example, artificial light levels and timing influences melatonin production in salamanders. Melatonin regulates hormones, reproductive development and behavior, skin coloration, an animal's ability to regulate body temperature, and night vision (Gern, 1986). Due to the potential for migratory birds, songbirds, amphibians and mammals, including nocturnally active special-status species, to occur within the Project limits, CDFW recommends additional measures for permanent and temporary lighting are included in the IS/MND to avoid potentially significant impacts.

Recommendation: CDFW recommends eliminating all non-essential artificial lighting. If artificial lighting is necessary, CDFW recommends avoiding or limiting the use of artificial lights during the hours of dawn and dusk, when many wildlife species are most active. CDFW also recommends that outdoor lighting be shielded, cast downward, and does not spill over onto other properties or upwards into the night sky (see the International Dark-Sky Association standards at http://darksky.org/).

Recommended Mitigation Measure 1: All temporary Project lighting associated with construction staging areas, access routes, and construction sites in and near undeveloped lands shall be shut down upon completion of work each day. Temporary Project lighting shall be cast downward and shall not be directed into natural areas outside of the Project area to prevent additional light pollution and disruption to nocturnal wildlife activity. Baffles and shielding devices shall be installed on all temporary lighting systems within the Project limits. Where safely possible, lights shall

3 cont'd be low to the ground and use longer wavelengths with minimal ultraviolet to blue light wavelengths. Where white lighting is required, neutral to warmer color temperatures with an output temperature of 2,700 kelvin or less shall be used.

COMMENT 3: Nesting Bird Surveys and Protection

Issue: The IS/MND proposes to implement mitigation measure MM BIO-1: Pre-Activity Surveys for Nesting Birds to mitigate for impacts to nesting birds. The measure does not define the nesting bird season, provide a large enough survey radius for raptor species, or state that baseline data will be collected if active nests are discovered.

Recommended Mitigation Measure 2 – Nesting Bird Surveys. If Project-related work is scheduled during the nesting season (typically February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), a qualified biologist shall conduct two surveys for active nests of such birds within 14 days prior to the beginning of Project construction, with a final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding the work area are typically the following: i) 250 feet for passerines; ii) 500 feet for small raptors such as accipiters; and iii) 1,000 feet for larger
4 raptors such as buteos. Surveys shall be conducted at the appropriate times of day and during appropriate nesting times.

Recommended Mitigation Measure 3 – Active Nest Protections. If the qualified biologist documents active nests within the Project area or in nearby surrounding areas, a species appropriate buffer between the nest and active construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of the nest to characterize "normal" bird behavior and establish a buffer distance which allows the birds to exhibit normal behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and increase the buffer if the birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist shall have the authority to cease all construction work in the area until the young have fledged, and the nest is no longer active.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make
5 subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDB. The CNDDB online field

5 cont'd survey form and other methods for submitting data can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plantsand-Animals.

FILING FEES

6 CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish and Game Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

CONCLUSION

Thank you for the opportunity to comment on the Project's IS/MND. If you have any questions regarding this letter or for further coordination with CDFW, please contact Ms. Serena Stumpf, Environmental Scientist, at (707) 337-1364 or Serena.Stumpf@wildlife.ca.gov; or Mr. Wesley Stokes, Senior Environmental Scientist (Supervisory), at Wesley.Stokes@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

ec: Office of Planning and Research, State Clearinghouse (SCH No. 2023110536)
Jessie Maxfield, CDFW - Jessica.Maxfield@wildlife.ca.gov

REFERENCES

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G.1.1 Response to Letter from California Department of Fish and Wildlife

Response to Comment 1

Summary of Comment. The comment describes CDFW's role as a Trustee Agency and a Responsible Agency in the Project approval process and summarizes CDFW's regulatory authority. The comment also provides a summary of the Project description and the environmental setting and location.

Response. The comment is noted.

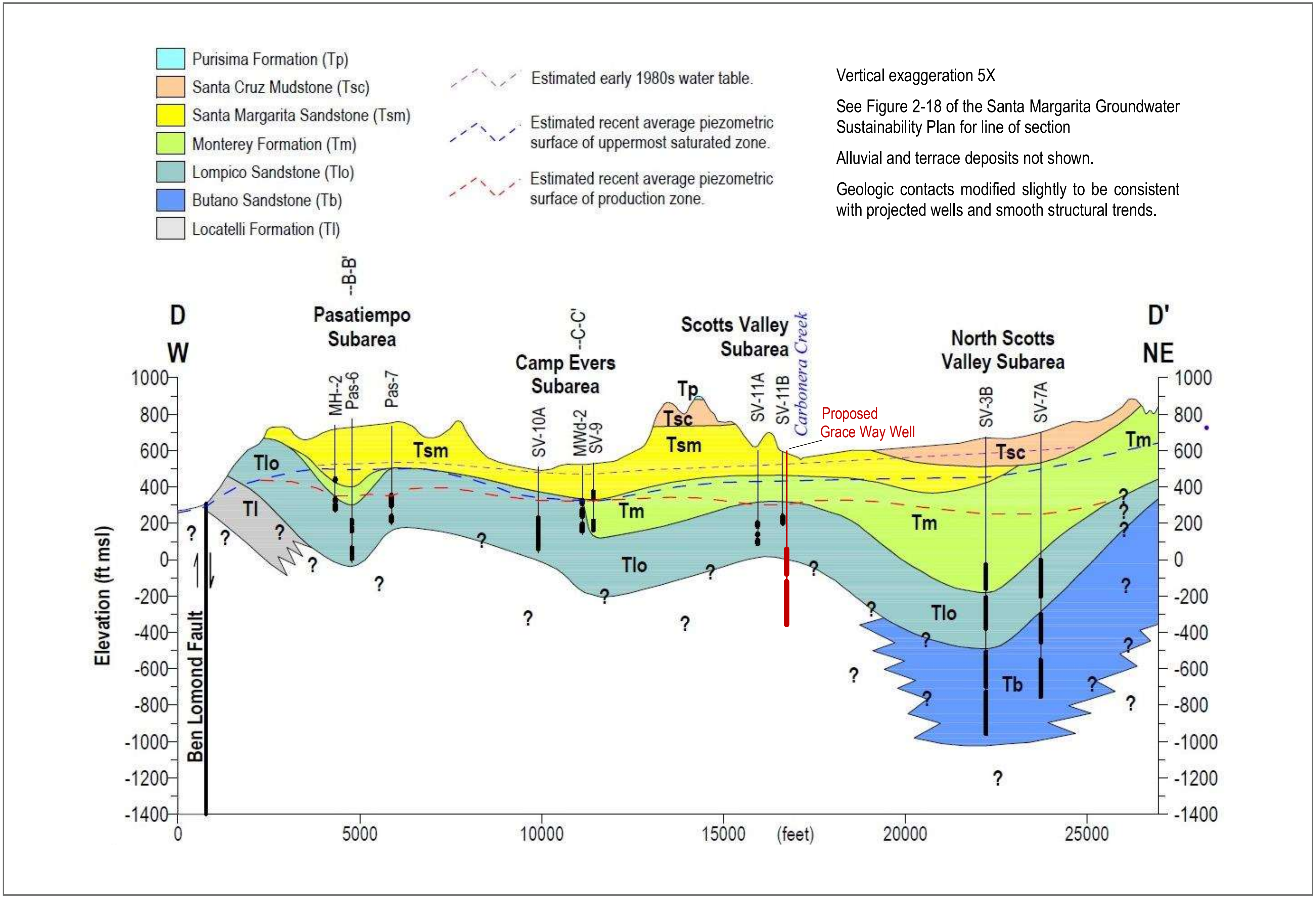
Response to Comment 2

Summary of Comment. The comment states that the Project has the potential to significantly negatively impact groundwater elevation and groundwater-dependent ecosystems (GDEs) associated with the Santa Margarita Groundwater Basin (SMGB). The comment states that CDFW does not consider minimum threshold groundwater elevations identified in the Santa Margarita Groundwater Agency (SMGWA) Groundwater Sustainability Plan (GSP) to be protective of fish and wildlife resources. The comment also states that the connection between groundwater pumping and interconnected surface water (ISW) flows is poorly understood in the SMGB and analysis is based on models rather than data.

The comment describes the Lompico Aquifer's limited response to recharge by precipitation and discharge to the San Lorenzo River, and states that sufficient surface flows are necessary to conserve the ecosystem. The comment states that groundwater that is hydrologically connected to surface waters is subject to the Public Trust Doctrine and groundwater managers should consider ISWs. The comment states that the MND should provide a more robust analysis of potential impacts to surface flow in the San Lorenzo River and other surface waters particularly during low-flow periods, including in multiple water year types and considering all life stages of coho salmon (*Oncorhynchus kisutch*), steelhead trout (*O. mykiss*), and other aquatic species potentially present within affected surface waters. The comment states that the environmental review should consider the Lompico aquifer's limited recharge capability and the Project's potential to impact the aquifer's discharge contribution into the San Lorenzo River. The comment states that the Project should include an operational plan that articulates triggers for a redistribution of pumping prior to levels reaching minimum thresholds.

The comment suggests that the SVWD consider implementing groundwater recharge projects that facilitate floodplain inundation, and states that the SVWD should take an environmentally conservative approach to groundwater extraction and consider beneficial uses and users of groundwater, including fish, wildlife, and their habitats; GDEs; and ISWs.

Response. The Grace Way Well would be screened at a depth of 570 feet to 950 feet in the Lompico and Butano aquifers, which are the two deepest aquifers in the Santa Margarita Groundwater Basin with limited direct connections to surface water. Figure G-1 shows a geologic cross-section though the Santa Margarita Basin and through the Project area with the proposed Grace Way Well location noted in red. The cross-section illustrates the depth of the Lompico and Butano aquifers at the Grace Way Well relative to the creeks and the Santa Margarita aquifer. The Lompico and Butano aquifers' direct recharge areas are strips of sandstone exposures along the northern basin boundary significantly upgradient of the Project site. These recharge areas are where the Lompico and Butano aquifers receive direct recharge from infiltrating precipitation and percolation through creek beds (SMGWA 2021). The Lompico aquifer discharges to the San Lorenzo River at three primary discharge locations where it is exposed in the riverbed. Only one of those discharge locations is downgradient of the Project site at the intersection of Bean Creek with the San Lorenzo River. At the Project site, the Lompico aquifer occurs at a depth of 380 feet and the Butano aquifer occurs at a depth of 700 feet.



SOURCE: Adapted from SMGWA 2021

DUDEK

FIGURE G-1

Geologic Cross-Section of the Santa Margarita Groundwater Basin

Grace Way Well Project

As shown on Figure G-1, at these depths, the aquifers have no direct connection to surface water in the vicinity of the proposed Grace Way Well. Therefore, an analysis of potential Project impacts on aquatic species due to surface flow in the San Lorenzo River and other surface waters, particularly during low-flow periods, is not warranted in this IS/MND.

Furthermore, the Project would not pump more groundwater than the current demand in the SVWD service area plus a 1% annual increase in demand over time. The Project purpose is to provide SVWD operational redundancy, replace pumping from wells to be decommissioned due to age, and to spread out pumping to minimize cumulative pumping drawdown effects. Section 1, Introduction, and Section 2, Project Description, of the IS/MND have been revised to clarify the purpose of the Project. The impact of Project pumping on groundwater levels and GDEs would not be significant because no substantive increase in groundwater extraction beyond what is currently extracted by the SVWD's existing system of wells is proposed. Moreover, as indicated previously, the well would be screened at depths in the aquifers that have no direct connection to surface water.

The SMGWA recognized data gaps with respect to ISW in the 2022 GSP, and since its publication has installed seven shallow wells with pressure transducers near creeks throughout the basin. Five of the seven new monitoring wells are co-located with streamflow gages to gain a better understanding of the groundwater/surface water dynamics in the basin. As warranted, such additional data gathered by these new monitoring wells will be considered during the regular 5-year update to the SMGWA GSP and appropriately reflected in revisions to the GSP. According to the standard operational practice included in Section 2, Project Description, of the IS/MND, the Project would be consistent with sustainable management criteria, including ensuring undesirable results identified in the DWR-approved Santa Margarita Groundwater Basin GSP and in any future revisions to the GSP do not occur. Therefore, the Project would continue to comply with the GSP over time as it is updated based on the additional data gathered, including data related to the groundwater/surface water dynamics in the basin.

The SMGWA GSP established and reflects sustainable yields for each of the aquifers that are used as minimum thresholds for the reduction of groundwater in storage sustainability indicator. Since the GSP has been implemented, pumping has been less than the minimum threshold and less than the measurable objective for the Butano aquifer. Lompico aquifer pumping has met the 2027 interim milestone but not the measurable objective which is only required to be met by 2042. Overall, the sustainable yields for each aquifer limit the allowable pumping of native groundwater.

Starting in 2000, basin-wide pumping has declined due to improved water efficiency and other management efforts reducing demand. Even during recent critically dry years, SVWD groundwater pumping is more than 1,000 acre-feet per year less than it was in 2000. Since 2017, there has been a notable steady groundwater level rise of between 30 to 40 feet in the Lompico aquifer near the Project site in response to SVWD's reduced pumping. Although he Project would cause local groundwater drawdown, it would not result in more groundwater extracted from storage than existing wells cumulatively extract or are planned to extract in the future.

As a member of the SMGWA, the SVWD is committed to recharging the Santa Margarita aquifer, which is the primary source of creek baseflows. Since 2004, SVWD has actively worked on reducing the system demand through introduction of a recycled water supply, implementation of water use efficiency programs, and minimizing water waste (SVWD and SLVWD 2021). Due to conservation and other management efforts at local water agencies, the total pumping from the SMGB has decreased by 45% since 1997. For the last 10 years, the demand and supply in the basin have been in balance (SVWD 2023). Through low impact development infiltration projects, the SVWD has recharged between 16 and 40 acre-feet per year of captured stormwater since 2018. The SVWD continues to look for ways to expand low impact development infiltration projects in other parts of Scotts Valley. The SVWD has focused on managed recharge of the aquifer by diverting stormwater runoff to local infiltration basins, where it can percolate into the aquifer. Groundwater recharge projects that facilitate floodplain inundation in the SVWD's service area are limited by narrow floodplains and adjacent urbanization. As described in the GSP, the SVWD is also exploring opportunities with neighboring water agencies for water transfers and conjunctive use projects to allow the SVWD to rest extraction wells during wet seasons when surface water is available for conjunctive use, which have the potential to raise groundwater levels and support basin sustainability when such projects are implemented.

The comment requests that the Project should include an operational plan that articulates triggers for redistribution of pumping prior to levels reaching minimum thresholds. The Project includes an operational practice in Section 2, Project Description, that commits the SVWD to operating the Project consistent with the sustainable management criteria developed by the SMGWA. The operational practice indicates that if groundwater elevations approach minimum thresholds in representative monitoring points close to the Project, the SVWD would need to redistribute pumping amongst its other wells or implement conjunctive use or managed recharge projects. The operational practice does not include triggers for redistributing pumping prior to levels reaching minimum thresholds, as the GSP does not include such triggers. However, the SVWD well locations allow for redistributing pumping, as warranted. The Project would support the SVWD's ability to redistribute pumping as it would shift groundwater pumping away from areas where the greatest Lompico aquifer groundwater level declines have historically occurred in south Scotts Valley.

While the GSP does not include triggers for redistributing pumping, the SVWD/San Lorenzo Valley Water District (SLVWD) 2020 Urban Water Management Plan (UWMP) (SVWD and SLVWD 2021) contains a Water Shortage Contingency Plan (WSCP) that includes trigger conditions based on rainfall, the GSP's sustainable management criteria, production capacity, and State mandates to inform water shortage stages (see Table G-1). The UWMP also describes shortage response actions for each water shortage stage. The water shortage stages and associated trigger levels serve to reduce customer demand and associated groundwater pumping in the SVWD during dry and drought conditions.

Table G-1. UWMP Groundwater Conditions Trigger Levels

Stage	SVWD Trigger Level
1	▪ Only rainfall trigger applies
2	▪ Groundwater level Representative Monitoring Point (RMP) Minimum Threshold levels are within 10 feet of Minimum Threshold for Monterey Formation, Lompico or Butano Aquifer RMPs ▪ Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 20% for Lompico Aquifer or 20% for Butano Aquifer
3	▪ One RMP in any of the Monterey Formation, Lompico Aquifer or Butano Aquifer has a Minimum Threshold exceedance ▪ Overall groundwater level trend over 5 years is declining in 25% of RMPs ▪ Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 20% for Lompico Aquifer or 20% for Butano Aquifer
4	▪ Three RMP in any of the Lompico, Monterey & Butano aquifers have Minimum Threshold exceedances ▪ Overall groundwater level trend over 5 years is declining in 50% of RMPs ▪ Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 30% for Lompico Aquifer or 30% for Butano Aquifer
5	▪ Lompico, Monterey & Butano aquifers have up to 5 RMP exceedances ▪ Santa Margarita aquifer has up to 5 RMP Minimum Threshold exceedances ▪ Overall groundwater level trend over 5 years is declining in 75% of RMPs ▪ Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 40% for Lompico Aquifer or 40% for Butano Aquifer

Source: SVWD and SLVWD 2021.
Note: The Districts' Boards may adjust stages up or down based on annual review and other WSCP shortage stage evaluation criteria.

The SVWD has identified a variety of demand reduction actions (and their estimated water savings potential) that could be used (but are not required) to offset supply shortages. These actions include, but are not limited to, conservation and rebate programs, leak detection and repair, and the prohibitions of using potable water for certain applications such as exterior washing of structures (except for health and safety reasons) or turf irrigation. Although it is difficult to estimate the volume of savings for each action, the SVWD expects to meet required reductions through a combination of response actions and outreach and communication efforts (see Table G-2).

Table G-2. Estimated Savings by Shortage Stage

Stage	Normal Supply	Required Savings[1]	Estimated Savings from Quantifiable Actions[2]	Estimated Savings from Unquantifiable Actions[3]
	acre-feet/year			
1	1,111	111	43	68
2	1,111	222	60	162
3	1,111	333	160	173
4 & 5	1,111	555	160	395

Source: SVWD and SLVWD 2021.
Notes:
1 Required savings may be met through a combination of quantifiable and unquantifiable actions. SLVWD and SVWD will only implement measures to the extent necessary to mitigate a water shortage, although estimates may indicate a greater savings is obtainable. It is anticipated that some of the required savings will be met through quantifiable shortage response actions and the remaining amount savings will be met through other actions, including communication and outreach efforts.
2 Quantifiable savings are estimated based on various published sources and are provided as a guide. The degree of implementation of actions can vary in each stage and can result in a wide range of savings. For a list of all SVWD specific shortage response actions and their potential savings, refer to Table 13-7 of the 2020 UWMP.
3 The remaining savings not achieved by quantifiable actions are anticipated to be achieved through unquantifiable communication and outreach efforts.

In summary, the Project does not have the potential to impact the aquifer’s discharge contribution into the San Lorenzo River and other surface waters as:

- The Lompico and Butano aquifers at the Project site have no direct connection to surface water in the vicinity of the Project;
- The Project would not pump more groundwater than the current demand in the SVWD service area plus a 1% annual increase in demand over time, as is planned under existing conditions;
- The Project would not result in more groundwater extracted from storage than existing wells cumulatively extract or are planned to extract in the future. The Project would adhere to the sustainable yields established in the GSP for each aquifer, which limit the allowable pumping of native groundwater.
- Under the stated standard operational practice, the Project would be consistent with sustainable management criteria, including ensuring undesirable results identified in the DWR-approved Santa Margarita Groundwater Basin GSP and in any future revisions to the GSP do not occur;
- The SVWD, along with other SMGWA member agencies, is committed to increasing groundwater levels in the Santa Margarita and Lompico aquifers. SVWD has actively worked on reducing the system demand through introduction of a recycled water supply, implementation of water use efficiency programs, minimizing water waste, and recharging the Santa Margarita aquifer with stormwater. Due to conservation and other management efforts at local water agencies, the total pumping from the SMGB has decreased by 45% since 1997. For the last 10 years, the demand and supply in the basin have been in balance.

- If groundwater elevations approach minimum thresholds in representative monitoring points close to the Project, the SVWD would need to redistribute pumping amongst its other wells. The Project would support the SVWD's ability to redistribute pumping as it would shift groundwater pumping away from areas where the greatest Lompico aquifer groundwater level declines have historically occurred in south Scotts Valley. Additionally, the GSP identifies conjunctive use or managed recharge projects to increase groundwater levels in the Scotts Valley area to levels that allow for operational flexibility (referred to as measurable objectives). These projects are needed to achieve and maintain long-term groundwater sustainability.

Response to Comment 3

Summary of Comment. The comment states that the Project has the potential to impact light-sensitive species in the area; notes that the IS/MND states that there is a low potential for California Species of Special Concern (SSC) including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Santa Cruz black salamander (*Aneides niger*), and California giant salamander (*Dicamptodon ensatus*) to occur on the Project site, and notes the purpose of the SSC designation; and summarizes impacts of artificial nighttime light pollution on wildlife species. The comment states that due to the potential for migratory birds, songbirds, amphibians, and mammals, including nocturnally active special-status species, to occur within the Project limits, CDFW recommends additional mitigation measures related to permanent and temporary lighting.

The comment recommends that the Project only include artificial lighting that is necessary; avoid or limit use of artificial lights during dawn and dusk; and use outdoor lighting that is shielded, cast downward, and does not spill over onto other properties or into the night sky.

The comment also provides one recommended mitigation measure related to temporary construction lighting.

Response. The IS/MND found that the Project would not have a significant impact on special-status species or migratory birds. As determined by the biological resources assessment prepared for the Project (summarized in Section 3.4, Biological Resources, and included in Appendix B of the IS/MND), no special-status species are expected to occur on or in the immediate vicinity of the Project site due to the absence of suitable habitat conditions and existing developed and disturbed conditions; furthermore, none were observed during the site survey. If any active migratory bird nests are present in trees near the Project site, potentially significant impacts from construction disturbance would be addressed through implementation of MM BIO-1 requiring pre-construction nesting bird surveys and no-work buffers around any active nests that are identified during pre-construction surveys.

The Project would not use unnecessary artificial lighting during construction or operation. As described in Section 3.1, Aesthetics, of the IS/MND, temporary construction lighting would not be necessary during typical construction activities occurring during daytime hours, but would be necessary for any construction activities occurring during the early morning hours in the late fall and early winter months, as well as during the 24-hour well drilling activities. During well drilling, temporary construction lighting would be shielded by a 24-foot-tall barrier and would be directed downward and away from adjacent properties such that no direct beam illumination would occur outside of the Project site boundary. Permanent operational lighting would consist of downward-directional lighting fixtures mounted above the entrance to the pump control building that would only illuminate the building entrance and avoid light pollution on surrounding properties and the night sky. The lighting would be controlled by a photocell that measures available daylight to minimize unnecessary lighting and would switch the light on at dusk and off at dawn.

Mitigation measures related to temporary or permanent Project lighting are not required as a significant impact has not been identified. As indicated in the analysis in Section 3.1, Aesthetics, of the IS/MND, Project impacts related to artificial lighting were determined to be less than significant for the following reasons. The Project site is located in a developed commercial area that contains existing sources of nighttime lighting, including streetlights along Scotts Valley Drive, vehicle headlights, and lighting at surrounding commercial and residential properties. As mentioned above, during well drilling, temporary construction lighting would be shielded by a 24-foot-tall barrier and would be directed downward and away from adjacent properties such that no direct beam illumination would occur outside of the Project site boundary. Permanent operational building-mounted security lighting would be similar to existing exterior security lighting on adjacent properties. This lighting would be mounted above the entrance to the pump control building, and would be directed downward such that it would only illuminate the building entrance and avoid light pollution on surrounding properties and the night sky. The lighting would be controlled by a photocell that measures available daylight to minimize unnecessary lighting and would switch the light on at dusk and off at dawn. Therefore, given the Project site's setting in a developed area with existing sources of artificial lighting to which common wildlife have adapted, that Project lighting would be shielded or directed downward and used only when necessary to illuminate the required areas on the Project site, and that no special-status species are expected to occur, the Project would not generate substantial light pollution that would cause significant impacts on nocturnally active species and therefore no mitigation is required.

Response to Comment 4

Summary of Comment. The comment states that MM BIO-1 does not define the nesting bird season, provide a large enough survey radius for raptor species, or state that baseline data will be collected if active nests are discovered. The comment further recommends two mitigation measures related to nesting bird surveys and active nest protections.

Response. The nesting bird season definition was inadvertently left out of MM BIO-1. It is also acknowledged that a second survey within 48 hours of the start of work would provide more certainty regarding the presence or absence of active nests. MM BIO-1 will be revised as follows:

> "Within 14 days prior to any ground-disturbing activities or vegetation clearing during the nesting season <u>(January 15 to September 15)</u>, a qualified biologist or biological monitor shall conduct a pre-activity nesting bird survey of all potential nesting habitat within the Project site, including a 100-foot buffer for passerine species and a 300-foot buffer for raptors. <u>If no active nests are found during this survey, a second and final survey shall be conducted within 48 hours prior to construction to confirm that nests are still absent.</u> If there is a lapse between the survey time and initiation of work activities of 14 days or greater, the nesting bird survey shall be repeated. If active nests are found during the survey, work in that area shall stop and a qualified biologist or biological monitor shall determine an appropriate no-work buffer around the nest based on the activity and species and mark the buffer using flagging, pin flags, lathe stakes, or similar marking method. No work shall occur within the buffer until the young have fledged or the nest(s) are no longer active, as determined by the biologist or biological monitor."

The buffer distances recommended by CDFW (250 feet for passerines, 500 for small raptors, 1,000 feet for larger raptors) would unnecessarily constrain the Project. Such distances may be appropriate in natural settings with no existing human disturbance levels, but the site is in an urban area where such disturbances regularly occur. MM BIO-1 already prescribes a 300-foot buffer for raptors, which would cover all the trees along Scotts Valley Drive and lower Grace Way between Johnston Way and Willis Road. It is highly unlikely that birds nesting along Carbonera Creek or on the hills above the site, both of which are separated from the site by urban or residential land uses, would perceive the proposed activities as a threat and abandon nests. Therefore, no changes to the nest survey buffer areas are proposed.

Although MM BIO-1 does not explicitly state that “baseline data will be collected if active nests are discovered,” such observational data would be collected by the biologist conducting the survey and incorporated when they “determine an appropriate no-work buffer around the nest based on the activity and species,” as indicated in the fourth sentence of the revised measure above. Therefore, MM BIO-1 is sufficient to protect nesting birds and no additional mitigation measures are necessary.

Response to Comment 5

Summary of Comment. The comment requests that any species-status species and natural communities detected during Project surveys be reported to the California Natural Diversity Database (CNDDB).

Response. As noted in the biological resources assessment prepared for the Project (included as Appendix B to the IS/MND) and summarized in Section 3.4, Biological Resources, of the IS/MND, no special-status plant or wildlife species or sensitive natural communities were observed during the biological field surveys. If such species are identified during pre-construction surveys, such observations will be reported to the CNDDB.

Response to Comment 6

Summary of Comment. The comment states that CDFW anticipates that the Project will have an impact on fish and/or wildlife and assessment of filing fees is necessary.

Response. The comment is noted.

G.2 References Cited

SMGWA (Santa Margarita Groundwater Agency). 2021. *Groundwater Sustainability Plan.* 2021. Accessed April 25, 2023 at https://www.smgwa.org/media/GroundwaterSustainabilityPlan/SMGB_GSP_Final_2021-11-11.pdf.

SVWD (Scotts Valley Water District). 2023. “Water Supply & Demand.” Accessed April 25, 2023 at https://www.svwd.org/Supply.

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